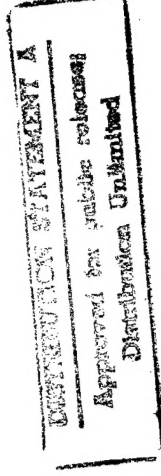
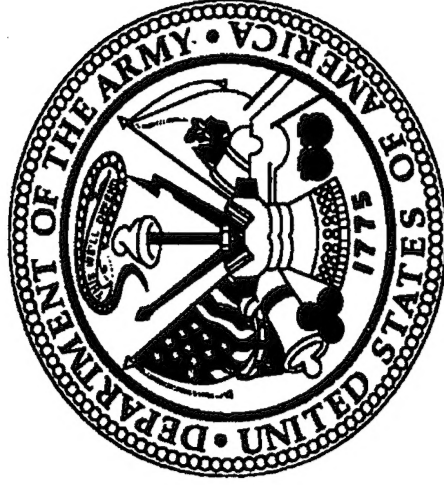


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# DEPARTMENT OF THE ARMY

Procurement Programs



Committee Staff Procurement Backup Book  
FY 1998 / FY 1999 Budget Estimate

AIRCRAFT PROCUREMENT, ARMY

APPROPRIATION

February 1997

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19970304 011

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21	EH-60 QUICKFIX MODS	AB3000	17728105.98P	285
22	AIRBORNE AVIONICS	AA0700	18472137.98P	300
23	ASE MODS	AA0720	18844137.98P	327
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26	AIRCRAFT SURVIVABILITY EQUIPMENT	AZ3504	13632137.98P	349
27	AIRBORNE COMMAND & CONTROL	AA0710	10030137.98P	359
28	AVIONICS SUPPORT EQUIPMENT	AZ3000	10832105.98P	363
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## Index for AIRCRAFT PROCUREMENT, ARMY

Blin	Nomenclature	SSN	Filename	Page Number
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DEPARTMENT OF THE ARMY  
FY 98/99 PROCUREMENT PROGRAM

EXHIBIT P-1  
February 1997

Appropriation: \*\*AIRCRAFT\*\*

Activity: 1. \*\*AIRCRAFT\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)											
				FY 96			FY 97			FY 98			FY 99		
				QTY	COST	(6)	QTY	COST	(8)	QTY	COST	(10)	QTY	COST	(12)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
<b>**FIXED WING**</b>															
1	ARL (TIARA) (A11500)				19,465	2	29,914		41,048					13,508	
2	C-XX (MEDIUM RANGE) AIRCRAFT (A11300)			5	21,122	5	21,979								
3	GUARDRAIL COMMON SENSOR (TIARA) (A02005)	A			5,870		4,988		3,388					1,986	
	<b>SUB-ACTIVITY TOTAL</b>				<b>46,457</b>		<b>56,881</b>		<b>44,436</b>					<b>15,494</b>	
<b>**ROTARY**</b>															
4	AH-64 ATTACK HELICOPTER (APACHE) (AA0007)				1,998										
5	UH-60 BLACKHAWK (MYP) (AA0005) LESS: ADVANCE PROCUREMENT (PY)		13,673,944	60	430,931 -105,226	34	296,942 -71,943	18	246,131 -62,900	12	155,178 -30,100				
					<b>325,705</b>		<b>224,999</b>		<b>183,231</b>		<b>125,078</b>				
6	UH-60 BLACKHAWK (MYP) (AA0005) ADVANCE PROCUREMENT (CY)				71,943		68,000		25,000						
7	HELICOPTER NEW TRAINING (A06500)				107										
	<b>SUB-ACTIVITY TOTAL</b>				<b>399,753</b>		<b>292,999</b>		<b>208,231</b>		<b>125,078</b>				
	<b>ACTIVITY TOTAL</b>				<b>446,210</b>		<b>349,880</b>		<b>252,667</b>		<b>140,572</b>				

DEPARTMENT OF THE ARMY  
FY 98/99 PROCUREMENT PROGRAM

EXHIBIT P-1  
February 1997

Appropriation: \*\*AIRCRAFT\*\*

Activity: 2. \*\*MODIFICATION OF AIRCRAFT\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)						FY 99		
				FY 96		FY 97		FY 98		FY 99		
				QTY	COST	QTY	COST	QTY	COST	QTY	COST	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
<b>**MODIFICATIONS OF AIRCRAFT**</b>												
8	GUARDRAIL MODS (TIARA) (AZ2000)	A			56,588		30,435		15,613		13,111	
9	AH1F MODS (AA0150)				2,482		1,098		451		473	
10	AH-64 MODS (AA6605)				52,215		42,774		41,168		71,010	
11	CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)				11,111		51,454		63,854		110,846	
12	C-12 CARGO AIRPLANE MODS (AA0270)				655		643		613		634	
13	OH-58 MODS (AA0400)				2,448		1,146		748		93	
14	C-20 AIRCRAFT MODS (AA0560)				2,229		881		853		838	
15	LESS: ADVANCE PROCURMENT (PY)				542,608		399,984		497,358		581,939	
					-117,027		-16,909		-22,526		-36,932	
					425,581		383,075		474,832		545,007	
16	LONGBOW (AA6670)				16,909		22,526		36,932		41,683	
17	UH-1 MODS (AB0602)				4,856		4,773		4,679		4,647	
18	UH-60 MODS (AA0480)				23,681		12,424		14,353		16,520	
19	KIOWA WARRIOR (AZ2200)				210,614		198,715		38,822		34,873	
20	EH-60 QUICKFIX MODS (AB3000)				37,142		13,899		38,140		37,301	
21	AIRBORNE AVIONICS (AA0700)				28,851		51,471		42,860		41,646	

DEPARTMENT OF THE ARMY  
FY 98/99 PROCUREMENT PROGRAM

EXHIBIT P-1  
February 1997

Appropriation: \*\*AIRCRAFT\*\*

Activity: 2. \*\*MODIFICATION OF AIRCRAFT\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)							
				FY 96		FY 97		FY 98		FY 99	
				QTY	COST	QTY	COST	QTY	COST	QTY	COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
22	ASE MODS (AA0720)				12,915		25,777		4,578		3,922
23	MODIFICATIONS < \$2.0M (AA0725)				2,345		1,788		1,735		1,707
	SUB-ACTIVITY TOTAL				890,622		842,879		780,231		924,311
	ACTIVITY TOTAL				890,622		842,879		780,231		924,311

DEPARTMENT OF THE ARMY  
FY 98/99 PROCUREMENT PROGRAM

EXHIBIT P-1  
February 1997

Appropriation: \*\*AIRCRAFT\*\*

Activity: 3. \*\*SPARES AND REPAIR PARTS\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)						FY 99		
				FY 96		FY 97		FY 98		FY 99		
				QTY	COST	QTY	COST	QTY	COST	QTY	COST	COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(12)
	<b>**SPARES AND REPAIR PARTS**</b>											
24	SPARE PARTS (AIR) (AA0950)				28,058		41,068		27,546		33,341	
	SUB-ACTIVITY TOTAL				28,058		41,068		27,546		33,341	
	ACTIVITY TOTAL				28,058		41,068		27,546		33,341	

DEPARTMENT OF THE ARMY  
FY 98/99 PROCUREMENT PROGRAM

EXHIBIT P-1  
February 1997

Appropriation: \*\*AIRCRAFT\*\*

Activity: 4. \*\*SUPPORT EQUIPMENT AND FACILITIES

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)							
				FY 96		FY 97		FY 98		FY 99	
				QTY	COST	QTY	COST	QTY	COST	QTY	COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	<b>**GROUND SUPPORT AVIONICS**</b>										
25	AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)				50,109		436		905		34,412
	<b>SUB-ACTIVITY TOTAL</b>				50,109		436		905		34,412
	<b>**OTHER SUPPORT**</b>										
26	AIRBORNE COMMAND & CONTROL (AA0710)				3,809						12,890
27	AVIONICS SUPPORT EQUIPMENT (AZ3000)				20,139		9,940		2,701		2,886
28	TRAINING DEVICES (AZ3700)	A			29,320		7,332				
29	COMMON GROUND EQUIPMENT (AZ3100)				27,642		24,887		30,636		31,041
30	AIRCREW INTEGRATED SYSTEMS (AZ3110)				7,142		13,280		12,472		10,003
31	AIR TRAFFIC CONTROL (AA0050)				12,555		6,395		5,802		5,854
32	INDUSTRIAL FACILITIES (AZ3300)				2,759		2,030		2,049		2,036
33	AIRBORNE COMMUNICATIONS (AA0705)				20,666		48,047		47,450		43,395
34	CLOSED ACCOUNT ADJUSTMENT (AZ9999)				863						
	<b>SUB-ACTIVITY TOTAL</b>				124,895		111,911		101,110		107,905
	<b>ACTIVITY TOTAL</b>				175,004		112,347		102,015		142,317
	<b>APPROPRIATION TOTAL</b>				1,539,894		1,346,174		1,162,459		1,240,541

BUDGET ITEM JUSTIFICATION SHEET									
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE							
AIRCRAFT PROCUREMENT / Aircraft		ARL (TIARA) (A11500)							
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY		0	2	0	0	0	0	0	0
COST (in millions)		19.5	29.9	41.0	13.5	15.7	11.9	11.9	0.0

#### DESCRIPTION:

The Airborne Reconnaissance-Low (ARL) has evolved from two complementary tactical airborne systems: ARL-I (Imagery Intelligence, IMINT), an electro-optic reconnaissance and surveillance system, and ARL-C (Communications Intelligence, COMINT), system which provides real-time, highly accurate radio intercept and location. The ARL program integrates the capabilities of ARL-I and ARL-C into a single system which satisfies the requirements identified by validated SOUTHCOM Statements of Need (SON). The merger of these programs minimizes acquisition and operational costs, increases availability, and optimizes operational flexibility resulting from the integration of the electro-optic and Radio Frequency (RF) sensors into a unified system. The primary sensors will be Signal Intelligence (SIGINT) with precision Direction Finding (DF) capability (IMINT), electro-optics for target identification and classification, and multimode radar capability including wide area search Moving Target Indicator (MTI) and Synthetic Aperture Radar (SAR). ARL provides near real-time tactical airborne SIGINT and real-time IMINT collection support to Joint Task Force (JTF) Commanders. ARL is a multi-echelon level; multi-INT (combined SIGINT and IMINT) system, designed for forward deployment/force projection in Operations Other Than War (OOTW) to mid intensity conflict environments. ARL also conducts daily JCS Sensitive Reconnaissance Operations and is rapidly self-deployable to support contingency operations, and is the airborne Reconnaissance Surveillance Target Acquisition (RSTA) platform of choice for various non-DoD government agencies such as DEA and FEMA. ARL is currently providing an indications and warnings capability to U.S. Armed Forces in Korea. A November 1995 Department of the Army (DA) Directed Requirement validated the USARPAC/PACOM SON requirement for six ARL-Ms with Electronic Intelligence (ELINT) and MTI/SAR.

#### JUSTIFICATION:

This requirement is in support of USCINCSOUTH and USARPAC/PACOM Statements of Need (SON) and are listed on each major regional CINC Integrated Priority List (IPL), a priority command initiative for rapid deployment and fielding. The SONs specify the requirement for an Infrared reconnaissance and surveillance system within SOUTHCOM and PACOM to work in conjunction with Host Nation countries in drug interdiction efforts and low-mid intensity conflicts. FY 98 funds will cover fielding costs associated with the systems previously procured and convert ARL System 1 (ARL-I) to a full ARL-M. FY 98 funds will also be used to purchase B-Kits for multi-function systems 4 and 5. FY 99 funds will cover fielding costs associated with the ARL-Ms, provide precision targetting to six ARL-Ms, and install Joint Tactical Terminals (JTT).



Aircraft Cost Analysis														A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 1 / Aircraft		B. WEAPON ARL (TIARA) (A11500)		C. MANUFACTURER NAME CMI, Belcamp, MD		D. DATE February 1997	
Aircraft Cost Elements			ID	FY 96			FY 97			FY 98			FY 99								
			CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost						
				\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000						
AIRCRAFT Flyaway Costs																					
Airframes / CFE				16374				2	3650				10506								
Aircraft MODS (incl mission equip)																					
Avionics																					
A. CFE																					
B. GFE																					
Other CFE																					
Armament																					
ECO (All Flyaway Components)																					
Airframe PGSE																					
Engine PGSE																					
Avionics PGSE																					
Other Costs																					
Subtotal Flyaway Costs				16374			25542			30895			10506								
Non-Recurring Costs																					
Tooling Equipment																					
Other																					
Total Flyaway				16374			25542			30895			10506								
Support Cost																					
Engineering Support				250			300			300			100								
Program Management (Admin Support)				950			1200			900			400								
Engineering Change Orders																					
Fielding				1761			2372			2153			2502								
Other: Testing/Spares				130			500			6800											
Subtotal Support Cost				3091			4372			10153			3002								
Gross P-1 End Cost				19465			29914			41048			13508								
Less : Prior Year Adv Proc																					
Net P-1 Full Funding Cost				19465			29914			41048			13508								
Plus: P-1 CY Adv Proc																					
Other Non P-1 Costs																					
Initial Spares																					
Mods																					
TOTAL				19465			29914			41048			13508								

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										
B. APPROPRIATION / BUDGET ACTIVITY					DATE February 1997					
C. P-1 ITEM NOMENCLATURE										
AIRCRAFT PROCUREMENT / 1 / Aircraft					ARL (TIARA) (A11500)					
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV RECD	IF YES W/A
FY 96 ARL-M Systems 1 & 2 MTI/SAR Mod	CMI, Belcamp, MD	C/FP-O	CECOM	Oct-95	Jun-96	2	8187	Yes	No	
FY97 ARL-M System 3 MTI/SAR Mod	CMI, Belcamp, MD	C/FP-O	CECOM	Nov-96	Jun-97	1	5200	Yes	No	
ARL-M Systems 4 & 5 - Airframes with Mods	CMI, Belcamp, MD	C/FP-O	CECOM	Dec-96	Apr-98	2	10171	Yes	No	
FY98 ARL-M Systems 4 & 5 B-Kits for 4 workstations per aircraft/imagery sensors and high performance multimode radar.	CMI, Belcamp, MD	C/FP-O	CECOM	Oct-97	Jul-98	2	10650	Yes	No	
ARL-I retro to ARL-M	CMI, Belcamp, MD	C/FP-O	CECOM	Jan-98	Jan-00	1	9595	Yes	No	
FY99 ARL-M Systems with precision targeting and JTT	TBS	C/FP	CECOM	Oct-98	Mar-00	6	1751	Yes	No	
REMARKS:										

[illegible]



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT		C-XX (MEDIUM RANGE) AIRCRAFT (A11300)									
/Aircraft		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY		5	5	0	0	0	0	2	2		
COST (in millions)		21.1	22.0	0.0	0.0	0.0	0.0	10.9	10.9		
<p>DESCRIPTION: The UC-35A (C-XX (medium range)) aircraft is a fully integrated, two-pilot, advanced technology, non-development item, fixed wing aircraft system. The UC-35A aircraft is being fielded using the concept of Life Cycle Contractor Support.</p>											

Aircraft Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 1 / Aircraft			B. WEAPON C-XX (MEDIUM RANGE) AIRCRAFT (A11300)			C. MANUFACTURER NAME Cessna			D. DATE February 1997		
ID	CD	Aircraft Cost Elements	FY 96			FY 97			FY 98			FY 99		
			TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
		Airframes/CFE	19,765	5	3,953	20,380	5	4,076						
		Avionics	426			490								
		Training	287			329								
		Contractor Support	357			428								
		Engine Repair, Parts & Material	80			113								
		Other Costs	207			239								
		<b>TOTAL</b>	<b>21,122</b>			<b>21,979</b>								

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
C-XX (MEDIUM RANGE) AIRCRAFT (A11300)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPEC AVAIL NOW	SPEC REV REQ'D	IF YES W/A
<b>C-XX (Medium Range) Aircraft</b>										
FY 95	Cessna Aircraft Company Wichita, Kansas	C/FP-O	ATCOM	Jan-96	Dec-96	2	3,913	Yes	No	
FY 96	Cessna Aircraft Company Wichita, Kansas	Option	ATCOM	Jun-96	Apr-97	5	3,953	Yes	No	
FY 97	Cessna Aircraft Company Wichita, Kansas	Option	ATCOM	Jun-97	Apr-98	5	4,076	Yes	No	
REMARKS:										



BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE								
AIRCRAFT PROCUREMENT / Aircraft		GUARDRAIL COMMON SENSOR (TIARA) (A02005)								
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	0	0	0	0	0	0	0	0	0	
COST (in millions)	5.9	5.0	3.4	2.0	0.0	0.0	0.0	0.0	0.0	

**DESCRIPTION:**

GUARDRAIL is a signal intercept and emitter location system designed to provide commanders with critical battlefield information via a Commander's Tactical Terminal and other DoD tactical and fixed communication systems. The Army's GUARDRAIL/Common Sensor systems will have a highly flexible architecture to allow rapid deployment to support contingency operations.

The GUARDRAIL/Common Sensor system integrates the Improved GUARDRAIL V for communications intelligence (COMINT), the Communications High Accuracy Airborne Location System (CHAALS and CHALS-X) for COMINT and precision emitter location, and Advanced QUICKLOOK (AQL) for electronics intelligence (ELINT) and precision emitter location into a single signal intelligence (SIGINT) system. The airborne elements are integrated into the RC-12K/P aircraft. Ground processing is conducted in the Integrated Processing Facility (IPF). Key performance requirements include a real-time COMINT and ELINT collection and high accuracy target location capability in communications and radar frequencies. The Interoperable Data Link (IDL)/Multi-Role Data Link (MRDL) connects the airborne elements and the ground processing element. Additional funding was received in FY97 to include a basic embedded training capability which will be delivered with the system.

**JUSTIFICATION:**

The Army has a need for a tactical airborne signals intelligence acquisition and high accuracy location system in support of Army Corps and contingency operations. The GUARDRAIL/Common Sensor will satisfy that need. The system also provides a key deployable peacetime indication and warning reconnaissance asset.

The FY98 GUARDRAIL/Common Sensor (A02005) funds provide for program management, and engineering support for the GUARDRAIL/Common Sensor System 2 program.

The FY99 GUARDRAIL/Common Sensor (A02005) funds provide for fielding support to the GUARDRAIL/Common Sensor System 2 program.



Aircraft Cost Analysis										A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 1 / Aircraft			B. WEAPON GUARDRAIL COMMON SENSOR (TIARA) (A02005)			C. MANUFACTURER NAME Raytheon, Wichita, KS			D. DATE February 1997	
Aircraft Cost Elements		ID	FY96			FY97			FY98			FY99								
		cd	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost						
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000						
AIRCRAFT Flyaway Costs																				
Airframes / CFE																				
Engine / Accessories																				
Avionics																				
A. CFE																				
B. GFE																				
Other GFE																				
Armament																				
ECO (All Flyaway Components)																				
Airframe PGSE																				
Engine PGSE																				
Avionics PGSE																				
Other Costs																				
Subtotal Flyaway Costs																				
Non-Recurring Costs																				
Tooling Equipment																				
Other ( Embedded Training )																				
Total Flyaway																				
Support Cost																				
Government In-House/Program Mgmt ADM																				
Contractor Engineering																				
Test & Integration Facility																				
Fielding/ICS																				
Subtotal Support Cost																				
Gross P-1 End Cost																				
Less : Prior Year Adv Proc																				
Net P-1 Full Funding Cost																				
Plus: P-1 CY Adv Proc																				
Other Non P-1 Costs																				
Initial Spares																				
Mods																				
TOTAL																				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
GUARDRAIL COMMON SENSOR (TIARA) (A02005)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
FY 97 Other ( Embedded Training )	TRW, Sunnyvale, CA	SS/FP	CECOM	Mar-97	Sep-98	*	*	No		
REMARKS: * Software upgrade, anticipated cost \$3.907 million										

FY 96 / FY 97 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE GUARDRAIL/COMMON SENSOR (TIARA) AO2005										DATE February 1997																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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BUDGET ITEM JUSTIFICATION SHEET												DATE
APPROPRIATION / BUDGET ACTIVITY												February 1997
P-1 ITEM NOMENCLATURE												
UH-60 BLACKHAWK (MYP) (AA0005)												
AIRCRAFT PROCUREMENT /Aircraft												
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program	
QUANTITY	1358	60	34	18	12	0	0	0	0		1482	
COST (in millions)	4823.8	325.7	225.0	183.2	125.1	7.9	0.0	0.0	0.0		5690.7	
Initial Spares (in millions)	400.1	8.6	6.5	2.5	2.0	0.0	0.0	0.0	0.0		419.7	
Total (in millions)	5,223.9	334.3	231.5	185.7	127.1	7.9	0.0	0.0	0.0	0.0	6,110.4	
Unit Cost (in millions) *	5.4	7.3	8.6	13.8	13.1	N/A	0.0	0.0	0.0		5.9	

**DESCRIPTION**

UH-60 BLACK HAWK is a twin engine, single rotor helicopter that is designed to support the Army's air mobility doctrine for employment of land forces into the 21st century. The BLACK HAWK is used in the performance of the Air Assault, General Support and Aeromedical Evacuation missions. It is designed to carry a crew of three and 11 combat-equipped troops or an external load up to 9,000 pounds. It performs the missions of transporting troops and equipment into combat, resupplying the troops while in combat and performing the associated functions of aeromedical evacuation, repositioning of reserves, and command and control.

The UH-60 BLACK HAWK is in its twentieth year of production. Fourteen hundred and eighteen aircraft have been procured by the Army over the period from FY77 thru FY96, which includes 18 aircraft provided to the U.S. Customs Service, 16 aircraft provided to the Air Force, and ten aircraft provided to Israel. In addition, 45 aircraft have been procured with National Guard funding. An additional 64 Army aircraft are budgeted for procurement in FY97 through FY99. This results in 1,483 aircraft for the Army versus a requirement of 2,043 aircraft. The initial 980 aircraft were delivered with the T700-GE-700 Engine and were designated as the UH-60A. With the incorporation of the General Electric T700-GE-701C Engine in the UH-60 in October 1989, the aircraft series designation was changed to the UH-60L. The last UH-60L Black Hawk will be delivered in June 2000.

**JUSTIFICATION:**

FY98 and FY99 funds are required for the procurement of aircraft and associated mission kits, continuation of fielding and to provide for PMO operations, matrix support, and contractor engineering support for the procurement of 18 and 12 aircraft respectively.

\* The Unit Cost reflects the Gross P-1 End Cost plus Initial Spares from the P-5. This more accurately portrays the unit cost of the aircraft since it includes advance procurement costs incurred in prior years.

Aircraft Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 1 / Aircraft			B. WEAPON UH-60 BLACKHAWK (MYP) (AA0005)			C. MANUFACTURER NAME Sikorsky, Stratford, CT			D. DATE February 1997		
Aircraft Cost Elements			FY96			FY97			FY98			FY99		
ID	CD		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
		<b>Airframes / CFE</b>												
		ENGINES / ACCESSORIES												
		(Eng Model T700-GE-701C) 2 per Acft												
		Avionics												
		A. CFE												
		B. GFE												
		Armament												
		Other GFE												
		ECO (All Flyaway Components)												
		Other Costs												
		<b>Subtotal Flyaway Costs</b>												
		<b>Non-Recurring Costs</b>												
		Tooling Equipment												
		Other System Test												
		<b>Total Flyaway</b>												
		<b>Support Cost</b>												
		Airframe PGSE												
		Engine PGSE												
		Avionics PGSE												
		Peculiar Training Equipment												
		Publications Tech / Data												
		Engineering Change Orders												
		PM Administration												
		Fielding												
		<b>Subtotal Support Cost</b>												
		Gross P-1 End Cost												
		Less: Prior Year Adv Proc												
		Net P-1 Full Funding Cost												
		Plus: P-1 CY Adv Proc												
		Other Non P-1 Costs												
		Initial Spares												
		Mods												
		<b>TOTAL</b>												

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE February 1997	
B. APPROPRIATION / BUDGET ACTIVITY										C. P-1 ITEM NOMENCLATURE	
AIRCRAFT PROCUREMENT / 1 / Aircraft										UH-60 BLACKHAWK (MYP) (A00005)	
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPECS REV REQ'D	IF YES W/A	
Airframes											
FY 96	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Nov-95	Jul-96	60	5439	Yes	No		
FY97	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Dec-96	Mar-98	6	5300	Yes	No		
FY 97	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Mar-97	Jul-97	28	5687	Yes	No		
FY98	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Dec-97	Jul-98	18	6471	Yes	No		
FY99	Sikorsky, Stratford, CT	SSM/FP	ATCOM	Dec-98	Jul-99	12	6855	Yes	No		
Engine											
FY95 (AP for FY96)	General Elec, Lynn, MA	SS/FP	ATCOM	Feb-95	May-96	56	521	Yes	No		
FY95 (AP for FY96)	General Elec, Lynn, MA	SS/FP	ATCOM	Jul-96	Oct-97	14	527	Yes	No		
FY 96 (AP for FY97)	General Elec, Lynn, MA	SS/FP	ATCOM	Dec-95	Oct-96	58	527	Yes	No		
FY97	General Elec, Lynn, MA	SS/FP	ATCOM	Dec-96	Nov-97	12	528	Yes	No		
FY97 (AP for FY98)	General Elec, Lynn, MA	SS/FP	ATCOM	Mar-97	Apr-98	36	539	Yes	No		
FY98 (AP for FY99)	General Elec, Lynn, MA	SS/FP	ATCOM	Dec-97	Apr-99	12	548	Yes	No		
FY99	General Elec, Lynn, MA	SS/FP	ATCOM	Dec-98	Oct-99	12	560	Yes	No		
REMARKS:											









Simulator and Training Device Justification							Date		
Appropriation / P-1 Line Item		Weapon System (if applicable)			Equipment Nomenclature		February 1997		
AIRCRAFT PROCUREMENT/UH-60 FLIGHT SIMULATOR 2B38		UH-60 Black Hawk			UH-60 Flight Simulators / Trainers		AA0005		
Fin Plan	Prior Years	FY 1996	FY 1997	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Total
Quantity (Each)	8	1							9
Proc (\$000)	22535	5339							27874
RDT&E (\$000)									
O&S (\$000)									

**TRAINING SYSTEM DESCRIPTION:**

THE UH-60 BLACK HAWK SIMULATORS/TRAINERS INCLUDE THREE MAINTENANCE TRAINERS, THE BLACK HAWK ELECTRICAL AVIONICS TRAINER (BEAT), THE UH-60A/L ELECTRIC TRAINER, AND THE BLACK HAWK MAINTENANCE TRAINER. THE BLACK HAWK INITIAL OPERATIONAL CAPABILITY DATE WAS NOV 1979. THE MAINTENANCE TRAINERS, WHEN DELIVERED, WILL AVOID SCHOOL REQUIREMENTS FOR ADDITIONAL CATEGORY B AIRCRAFT. ALL DEVICES WILL HAVE COMPUTER GENERATED FAULTS AND COMPONENT REMOVE AND REPLACE CAPABILITY EXACTLY AS IT IS ON THE AIRCRAFT.

THE BLACK HAWK ELECTRICAL AVIONICS TRAINER PROVIDES THE CAPABILITY TO TRAIN MAINTENANCE PERSONNEL IN THE TROUBLE SHOOTING, REPAIR AND ADJUSTMENT OF ELECTRICAL AND AVIONICS SYSTEMS.

THE A/L ELECTRICAL TRAINER IS AN INDIVIDUAL SIZE TRAINER UTILIZED TO TRAIN MAINTENANCE PERSONNEL IN THE TROUBLESHOOTING AND FAULT ISOLATION PROCEDURES FOR AC/DC POWER DISTRIBUTION SYSTEM.

THE BLACK HAWK MAINTENANCE TRAINER IS UTILIZED TO TRAIN MAINTENANCE PERSONNEL IN THE TROUBLESHOOTING, REPAIR, ALIGNMENT AND ADJUSTMENT OF ALL OF THE AIRCRAFT SYSTEMS, I.E., POWER TRAIN, PNEUMATICS, HYDRAULICS, ELECTRICAL SYSTEMS, RIGGING.

Simulator and Training Device Justification (Page 2)												Date	February 1997
Appropriation / P-1 Line Item		Weapon System (if applicable)			IOC Date		Equipment Nomenclature			PE			
AIRCRAFT PROCUREMENT/UH-60 FLIGHT SIMULATOR 2B38		UH60 Black Hawk			Nov 79		UH60 Flight Simulators / Trainers			AA0005			
Training Device By Type	Site	Del. Date	Ready For Tng Date	Avg Student Thruput	Prior Years		FY 1996		FY 1997		FY 1998		
					Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	
					Each	\$000	Each	\$000	Each	\$000	Each	\$000	
Black Hawk Elec Avionics	Ft Eustis	Sep-98	Oct-98	619	3	6735		1900					
A/L Elec Trainer	Ft Eustis	Jan-97	Feb-97	619			1	1539					
Black Hawk Maintenance Trainer	Ft Eustis	Apr-96	May-96	902	5	15800		1900					
<b>Total</b>						22535		5339					

Simulator and Training Device Justification (Page 3)										DATE		February 1997	
Training Device By Type Black Hawk Elec Avionics				Weapon System (if applicable) UH60 Black Hawk									
Description / Justification The Black Hawk Electrical Avionics trainer provides the capability to train maintenance personnel in the trouble shooting, repair and adjustment of the automatic flight control system and electrical and avionics systems.													
Financial Plan	Prior Years		FY 1996		FY 1997		FY 1998		Cost To Complete		Total Cost		
	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	
<b>HARDWARE COSTS</b>													
Device (hardware)	3	6735		1900							3	8635	
ECOs													
Nonrecurring													
GFE													
Other (Specify)													
<b>SubTotal Hardware Costs</b>	<b>3</b>	<b>6735</b>		<b>1900</b>							<b>3</b>	<b>8635</b>	
<b>SUPPORT COSTS</b>													
Special SE													
Integrated Logistics Support													
Other (Specify)													
<b>SubTotal Support Costs</b>													
Software/Courseware													
<b>TOTAL COSTS</b>		<b>6735</b>		<b>1900</b>								<b>8635</b>	

Simulator and Training Device Justification (Page 3)										DATE		February 1997	
Training Device By Type		Weapon System (if applicable)											
Black Hawk Maintenance Trainer		UH60 Black Hawk											
Description / Justification													
The Maintenance trainers will release school requirements for 12 category B aircraft. All devices will have computer generated faults and component remove and replace capability exactly as it is on the aircraft.													
Financial Plan		Prior Years		FY 1996		FY 1997		FY 1998		Cost To Complete		Total Cost	
		Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
		Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000
<b>HARDWARE COSTS</b>													
Device (hardware)		5	15800		1900							5	17700
ECOs													
Nonrecurring													
GFE													
Other (Specify)													
<b>SubTotal Hardware Costs</b>		<b>5</b>	<b>15800</b>		<b>1900</b>							<b>5</b>	<b>17700</b>
<b>SUPPORT COSTS</b>													
Special SE													
Integrated Logistics Support													
Other (Specify)													
<b>SubTotal Support Costs</b>													
Software/Courseware													
<b>TOTAL COSTS</b>			<b>15800</b>		<b>1900</b>								<b>17700</b>

BUDGET ITEM JUSTIFICATION SHEET												DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE										UH-60 BLACK HAWK (MYP) (ADV PROC) (AA0005)	
AIRCRAFT PROCUREMENT /Aircraft		Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program	
QUANTITY												0	
COST (in millions)		2210.5	71.9	68.0	25.0	0.0	0.0	0.0	0.0	0.0		2375.4	
Initial Spares (in millions)												0.0	
Total (in millions)		2210.5	71.9	68.0	25.0	0.0	0.0	0.0	0.0	0.0		2375.4	
Unit Cost (in millions)													
<b>DESCRIPTION:</b> The Advance Procurement funding for the UH-60 BLACK HAWK contains funding for the airframe and engine contracts and funding for Government Furnished Equipment (GFE) to support the UH-60 production and mission kits. GFE includes such items as avionics equipment, crew seats, Hover Infrared Suppressor Systems and Auxiliary Power Units.													
<b>JUSTIFICATION:</b> Advance procurement requested in FY98 is for termination liability and funding for mission kits and GFE items including the T700-GE-701C engine, the Auxiliary Power Unit (APU), Armored Crew Seats, Hover Infrared Suppressor Subsystem (HIRSS) Core, Elastomeric Rod End Bearings, and numerous avionics items procured by the Communications and Electronics Command (CECOM).													

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10a) (COMPARISON OF REQUEST TO EXECUTION) (TOA, Dollars in Thousands)									
Weapon System Type (Model/Serial No.)		FIRST SYSTEM AWARD DATE		FIRST SYSTEM COMPLETION DATE		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)		PRIOR YEAR FOR FISCAL YEAR PROGRAM	
UH-60 BLACKHAWK (AdvProc)		December 1976		August 1978				February 1997	
Advance Procurement / Advance Funding Items Requested / Actual		Quantity	Date Contract Award Required / Actual	Date Delivery of First Equipment Required / Actual	Production Lead Time in Months Total Requested (Adm/Prod) Actual (Adm/Prod)	Total Cost Requested	Actual Contract Cost		
(1)	(2)	(3)	(4)	(5)	(6)	(7)			
1. CFE	28	Feb-96	Jul-97	19	32000	32000	71943	71943	
2. GFE (Specify)									
APU	28	Mar-97	Apr 98	13	2307	2307			
Engine	58	Dec-95	Apr 97	25	30663	30663			
Hover Infrared Suppressor	28	Aug-96	Apr 97	10	1456	1456			
Elastomeric Bearings	28	Nov-96	Apr 97	10	434	434			
Crew Seats	72	Jul-96	Apr 97	12	1499	1499			
Avionics	28	Various	Various	Various	1795	1795			
Mission Kits	Various	Mar-97	N/A	Various	1473	1473			
Other	N/A	Dec-95	N/A	N/A	316	316			
3. SUBTOTAL					71943	71943			
4. EOQ (MYP)									
5. (CFE)									
6. (GFE) (Specify)									
7. SUBTOTAL									
8. Design									
9. Other (Indicate Specific Items)									
10. TOTAL									
NARRATIVE DESCRIPTION									
Long lead funding for the airframe was required to support a single year contract. Full funding of GFE items is required, since the production lead time of these items is greater than that of the end item (with long lead funding provided). APU requirement is to payback assets issued from stock. Actual data is consistent with the requirement.									

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10a) (COMPARISON OF REQUEST TO EXECUTION) (TOA, Dollars In Thousands)									
Weapon System Type (Model/Series No.) UH-60 BLACKHAWK (MYP) (ADV PROC)		FIRST SYSTEM AWARD DATE December 1976		FIRST SYSTEM COMPLETION DATE August 1978		CURRENT YEAR FOR FISCAL YEAR PROGRAM 1997		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)	
Advance Procurement / Advance Funding Items Requested / Actual		Quantity	Date Contract Award Required / Actual	Date Delivery of First Equipment Required / Actual	Production Lead Time in Months Total Requested (Adm/Prod) Actual (Adm/Prod)	Total Cost Requested	Actual Contract Cost		
(1)		(2)	(3)	(4)	(5)	(6)	(7)		
1. CFE									
2. GFE (Specify)									
APU		18	Mar-97	Apr-98	13	1440	1440	1440	
Engines		36	Mar-97	Apr-98	25	19495	19495	19495	
Hover Infrared Suppressor		18	May-97	Apr-98	10	1162	1162	1162	
Elastomeric Bearings		18	May-97	Apr-98	10	285	285	285	
Crew Seats		32	May-97	Apr-98	12	681	681	681	
Avionics		18	Various	Apr-98	Various	4387	4387	4387	
Other		N/A	Mar-97	N/A	N/A	553	553	553	
3. SUBTOTAL						28003	28003	28003	
4. EOQ (MYP)									
Airframe (1)		30	Mar-97	Jul-98	19	39997	39997	39997	
5. (CFE)									
6. (GFE) (Specify)									
7. SUBTOTAL						39997	39997	39997	
8. Design									
9. Other (Indicate Specific Items)									
10. TOTAL						68000	68000	68000	
NARRATIVE DESCRIPTION									
EOQ (termination liability) funding is required for the airframe. Funding for GFE items is required since the production lead time of the components is greater than that of the end item (when termination liability funding is provided to the prime contractor). Actual data is consistent with the requirement.									

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL) (TOA, Dollars in Thousands)										BUDGET YEAR 1 FOR FISCAL YEAR PROGRAM 1998	
Weapon System Type (Model/Serial No.) UH-60 BLACKHAWK (ADV PROC)		FIRST SYSTEM AWARD DATE December 1976			FIRST SYSTEM COMPLETION DATE August 1978		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS) 1				
Advance Procurement / Advance Funding Items	Quantity	Date Contract Award Planned / Required	Delivery Date of First Equipment Required	Production Lead Time in Months (Adm / Prod) - Total	Unit Cost	Total Cost					
(1)	(2)	(3)	(4)	(5)	(6)	(7)					
1. CFE											
2. GFE (Specify)											
APU	12	Dec 97	Apr-99	13	57	978					
Engine	12	Dec 97	Apr-99	25	539	6685					
Avionics	12	Various	Apr-99	Various	202	2986					
Hover Infrared Suppressor	12	May-98	Apr-99	10	54	789					
Elastomeric Bearings	12	Dec-97	Apr-99	10	16	194					
Crew Seats	24	Dec-97	Apr-99	12	19	520					
Other	N/A	Dec-97	N/A	N/A	N/A	563					
3. SUBTOTAL						12715					
4. EOQ (MYP)											
Airframe	12	Dec 97	Jul-99	19	317	12285					
5. (CFE)											
6. (GFE) (Specify)											
7. SUBTOTAL						12285					
8. Design											
9. Other (Indicate Specific Items)											
10. TOTAL						25000					
NARRATIVE DESCRIPTION EOQ (termination liability) funding is required for the airframe. Funding for GFE items is required since the production lead time of the components is greater than that of the end item (when termination liability funding is provided to the prime contractor).											



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT /Modification of Aircraft		GUARDRAIL MODS (TIARA) (AZ2000)									
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY			0	0	0	0	0	0	0		
COST (in millions)		56.6	30.4	15.6	13.1	0.0	0.0	0.0	0.0		
<p><b>DESCRIPTION:</b></p> <p>GUARDRAIL is a signal intercept and emitter location system designed to provide tactical commanders with critical battlefield information via a Joint Tactical Terminal and other DoD tactical and fixed communication systems. The Army's GUARDRAIL/Common Sensor system will have a highly flexible architecture to allow rapid deployment to support contingency operations.</p> <p>The GUARDRAIL/Common Sensor system integrates the Improved GUARDRAIL V for communications intelligence (COMINT), the Communications High Accuracy Airborne Location System (CHAALS and CHALS-X) for COMINT and precision emitter location, and Advanced QUICKLOOK (AQL) for electronics intelligence (ELINT) and precision emitter location into a single signal intelligence (SIGINT) system. The airborne elements are integrated into the RC-12K/N/P aircraft. Ground processing is conducted in the Integrated Processing Facility (IPF). Key performance requirements include a real-time COMINT and ELINT collection and high accuracy target location capability in communications and radar frequencies. The Interoperable Data Link (IDL)/Multi-Role Data Link (MRDL) connects the airborne elements and the ground processing element. A satellite remote relay will provide rapid deployment capability.</p> <p><b>JUSTIFICATION:</b></p> <p>FY98/99 funds the installation and fielding of modifications and equipment to systems procured in prior years. The modification requiring FY98/99 funds are listed below.</p> <ul style="list-style-type: none"> <li>- The GR/CS System 2 Block Upgrade is a modification to the System 2 production contract to provide an advanced tactical SIGINT architecture and direct air to satellite relay (DASR). DASR allows the contingency corps to be deployed on worldwide missions with little to no airlift support and with reduced forwardly deployed personnel.</li> <li>- The Interoperability modification gives GR/CS System 2 the ability to be interoperable with Air Force platforms in FY99.</li> </ul>											



MODIFICATION INSTALLATION SUMMARY									
Date									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
* No P3a Set for modification									
GUARDRAIL MODS (TIARA)									
AZ2000									
CHAALS for System 3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Interoperability with Air Force	0.0	1.3	0.0	0.2	0.0	0.0	0.0	0.0	1.5
Remote Relay for System 1	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8
AQL Phase III Hardware Upgrade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System 2 Block Upgrade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIBS and TRIXS for GR/CS	0.0	0.7	1.4	0.0	0.0	0.0	0.0	0.0	2.2
Totals	0.1	2.8	1.4	0.2	0.0	0.0	0.0	0.0	4.6

INDIVIDUAL MODIFICATION								
MODIFICATION TITLE:	CHAALS for System 3 1-96-111-1111							
MODELS OF SYSTEMS AFFECTED:	GUARDRAIL/Common Sensor System 3 / RC-12H							
DESCRIPTION / JUSTIFICATION:	<p>The requirement exists for a Communications High Accuracy Airborne Location System and precision location capability in System 3 which is currently deployed to Korea. Funds were used to procure commercial processing and peripheral equipment which allows use of residual equipment from the development contract. Installation was performed by government personnel. Funds also provided for training of the unit on the equipment.</p>							
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	<p>Contract Award:</p> <p>Delivery:</p>	<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>1QFY96</td> <td>1QFY96</td> </tr> <tr> <td>3QFY96</td> <td>2QFY96</td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	1QFY96	1QFY96	3QFY96	2QFY96
PLANNED	ACCOMPLISHED							
1QFY96	1QFY96							
3QFY96	2QFY96							

INDIVIDUAL MODIFICATION														
CHAALS for System 3 1-96-111-1111														
MODIFICATION TITLE (Cont):														
FINANCIAL PLAN: (\$ in Millions)														
FY 96 and Prior		FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	TOTAL				
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E														
PROCUREMENT														
Kit Quantity														
Installation Kits														
Installation Kits Nonrecurring														
1	0.1									1	0.1			
	0.4										0.4			
Equipment Nonrecurring														
	0.1										0.1			
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														
	0.1										0.1			
Other														
Interim Contractor Support														
Installation of Hardware														
1	0.1									1	0.1			
FY 96 & Prior Eqpt -- Kits														
FY 97 Eqpt -- Kits														
FY 98 Eqpt -- Kits														
FY 99 Eqpt -- Kits														
FY 00 Eqpt -- kits														
FY 01 Eqpt -- kits														
FY 02 Eqpt -- kits														
FY 03 Eqpt -- kits														
(FY(TC) Eqpt (xx kits)														
1	0.1									1	0.1			
Total Installation Cost														
	0.8										0.8			
Total Procurement Cost														
METHOD OF IMPLEMENTATION Gov't field team														
Contract Dates: FY 97:      FY 98:      FY 99:      FY 99:														
Delivery Date:      FY 98:      FY 99:      FY 99:														
ADMINISTRATIVE LEADTIME: 2 Months      PRODUCTION LEADTIME: 3 Months														

CHAALS for System 3 1-96-111-1111													
Installation Schedule:													
	FY 96 & Prior	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	Total		
<b>Inputs</b>													
FY 96 & Prior	1												1
FY 97													
FY 98													
FY 99													
<b>Outputs</b>													
FY 96 & Prior	1												1
FY 97													
FY 98													
FY 99													
<b>Inputs</b>													
FY 00													
FY 01													
FY 02													
FY 03													
<b>Outputs</b>													
FY 00													
FY 01													
FY 02													
FY 03													
<b>Inputs</b>													
FY 00	1	2	3	4	4	1	2	3	4	1	2	3	4
FY 01													
FY 02													
FY 03													
<b>Outputs</b>													
FY 00													
FY 01													
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<b>Inputs</b>													
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FY 03													
<b>Inputs</b>													
FY 00													
FY 01													
FY 02													
FY 03													
<b>Outputs</b>													
FY 00													
FY 01													

INDIVIDUAL MODIFICATION															
MODIFICATION TITLE:	Interoperability with Air Force 1-96-222-2222														
MODELS OF SYSTEMS AFFECTED:	GUARDRAIL/Common Sensor System 3 / RC-12H, Sys 4 / RC-12K, Sys 1 / RC-12N, System 2 / RC-12P														
DESCRIPTION / JUSTIFICATION:	<p>The requirement exists for all GUARDRAIL/Common Sensor systems to be interoperable with Air Force platforms. Interoperability increases the SIGINT data available to the tactical commander by allowing the GUARDRAIL systems to control and obtain data from Air Force platforms.</p>														
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:															
Contract Award:	<table border="0"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>4QFY96</td> <td>4QFY96</td> </tr> <tr> <td>2QFY97</td> <td></td> </tr> <tr> <td>3QFY97</td> <td></td> </tr> <tr> <td>3QFY97</td> <td></td> </tr> <tr> <td>4QFY97</td> <td></td> </tr> <tr> <td>4QFY97</td> <td></td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	4QFY96	4QFY96	2QFY97		3QFY97		3QFY97		4QFY97		4QFY97	
PLANNED	ACCOMPLISHED														
4QFY96	4QFY96														
2QFY97															
3QFY97															
3QFY97															
4QFY97															
4QFY97															
Software Build #1 I & T:															
Software Build #2 I & T:															
Software Build #3 I & T:															
Integration & Test:															
Preliminary Acceptance Test:															



INDIVIDUAL MODIFICATION																					
MODIFICATION TITLE (Cont): Interoperability with Air Force 1-96-222-2222																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 96 and Prior		FY 97		FY 98		FY 99		FY 00		FY 01		FY 02		FY 03		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
Installation Kits Nonrecurring Equipment	3	5.2					1	1.7												4	6.9
Equipment Nonrecurring		1.1																			1.1
Engineering Change Orders																					
Data		0.4																			0.4
Training Equipment																					
Support Equipment				0.4				0.1													0.5
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 96 & Prior Eqpt -- Kits																					
FY 97 Eqpt -- Kits																					
FY 98 Eqpt -- Kits																				3	1.3
FY 99 Eqpt -- Kits																					
FY 00 Eqpt -- kits																				1	0.2
FY 01 Eqpt -- kits																					
FY 02 Eqpt -- kits																					
FY 03 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost			3	1.3																4	1.5
Total Procurement Cost		6.7		1.7			1.8														10.5

METHOD OF IMPLEMENTATION Contractor	ADMINISTRATIVE LEADTIME:	10 Months	PRODUCTION LEADTIME:	14 Months
Contract Dates: FY 97:	FY 98:	Dec 97	FY 99:	
Delivery Date: FY 97:	FY 98:	Feb 99	FY 99:	

**Installation Schedule:**[illegible]

INDIVIDUAL MODIFICATION													
MODIFICATION TITLE:	Remote Relay for System 1 1-96-333-3333												
MODELS OF SYSTEMS AFFECTED:	GUARDRAIL/Common Sensor System 1 / RC-12N												
DESCRIPTION / JUSTIFICATION:	<p>The requirement exists for GR/CS System 1 to provide precision location/targeting data while operating in a remote mode. Currently, the system can not perform precision location for targeting through the satellite relay while being used in remote operation. The required precision location hardware will be purchased from an ongoing production contract and fabrication will be performed by Tobyhanna Army Depot. Installation will be at the unit with efforts structured around system availability.</p>												
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:													
	<table border="0"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>System Requirement Review:</td> <td>4QFY96</td> <td>3QFY96</td> </tr> <tr> <td>Quarterly Reviews:</td> <td>Quarterly</td> <td></td> </tr> <tr> <td>System I &amp; T:</td> <td>1QFY98</td> <td></td> </tr> </tbody> </table>		PLANNED	ACCOMPLISHED	System Requirement Review:	4QFY96	3QFY96	Quarterly Reviews:	Quarterly		System I & T:	1QFY98	
	PLANNED	ACCOMPLISHED											
System Requirement Review:	4QFY96	3QFY96											
Quarterly Reviews:	Quarterly												
System I & T:	1QFY98												

INDIVIDUAL MODIFICATION

Remote Relay for System 1 1-96-333-3333

MODIFICATION TITLE (Cont):

FINANCIAL PLAN: (\$ in Millions)

	FY 96 and Prior		FY 97		FY 98		FY 99		FY 00		FY 01		FY 02		FY 03		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring Equipment	1	0.5																	1	0.5
Equipment Nonrecurring		5.9																		5.9
Engineering Change Orders		0.1																		0.1
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 96 & Prior Eqpt -- Kits			1	0.8															1	0.8
FY 97 Eqpt -- Kits																				
FY 98 Eqpt -- Kits																				
FY 99 Eqpt -- Kits																				
FY 00 Eqpt -- kits																				
FY 01 Eqpt -- kits																				
FY 02 Eqpt -- kits																				
FY 03 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost			1	0.8															1	0.8
Total Procurement Cost		6.5		0.8																7.3

METHOD OF IMPLEMENTATION Gov't field team

Contract Dates:

FY 97:

Delivery Date:

FY 97:

ADMINISTRATIVE LEADTIME:

FY 98:

FY 98:

9 Months

FY 99:

FY 99:

15 Months

PRODUCTION LEADTIME:

Remote Relay for System 1 1-96-333-3333													
Installation Schedule:													
	FY 96 & Prior	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	Total		
<b>Inputs</b>													
FY 96 & Prior	1	2	3	4	1	2	3	4	1	2	3	4	1
FY 97													
FY 98													
FY 99													
<b>Outputs</b>													
FY 96 & Prior													1
FY 97													
FY 98													
FY 99													
<b>Inputs</b>													
FY 00	1	2	3	4	1	2	3	4	1	2	3	4	4
FY 01													
FY 02													
FY 03													
<b>Outputs</b>													
FY 00													
FY 01													
FY 02													
FY 03													

INDIVIDUAL MODIFICATION								
MODIFICATION TITLE:	AQL Phase III Hardware Upgrade 1-96-444-4444							
MODELS OF SYSTEMS AFFECTED:	GUARDRAIL/Common Sensor System 4 / RC-12K, System 1 / RC-12N							
DESCRIPTION / JUSTIFICATION:	<p>The final phase of the Advanced Quicklook (AQL) modification program improves the sustainment and availability of AQL hardware. It includes enhanced flight line maintenance and system diagnostics to better isolate failed equipment and reduce the time required to perform maintenance. It also updates test procedures and equipment to incorporate changes made and lessons learned. It includes modifications to selected AQL Line Replaceable Units (LRUs) to correct several identified hardware problems arising from environmental conditions during extensive operational testing. Efforts will be done under the current production contract. There are no special installation requirements necessary. Equipment will be provided to the unit for their installation through normal maintenance procedures, at no additional cost.</p>							
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>2QFY96</td> <td>2QFY96</td> </tr> <tr> <td>2QFY97</td> <td></td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	2QFY96	2QFY96	2QFY97		
PLANNED	ACCOMPLISHED							
2QFY96	2QFY96							
2QFY97								

**AQL Phase III Hardware Upgrade 1-96-444-4444**

**MODIFICATION TITLE (Cont):**

**FINANCIAL PLAN: (\$ in Millions)**

	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	TC	TOTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E										
PROCUREMENT										
Kit Quantity										
Installation Kits										
Installation Kits Nonrecurring Equipment										
Equipment Nonrecurring										
Engineering Change Orders										
Data	1	3.3								3.3
Training Equipment										
Support Equipment										
Other										
Interim Contractor Support		1.4								1.4
Installation of Hardware										
FY 96 & Prior Eqpt -- Kits										
FY 97 Eqpt -- Kits		1								1
FY 98 Eqpt -- Kits										
FY 99 Eqpt -- Kits										
FY 00 Eqpt -- kits										
FY 01 Eqpt -- kits										
FY 02 Eqpt -- kits										
FY 03 Eqpt -- kits										
(FY(TC) Eqpt (xx kits)										
Total Installation Cost		1								1
Total Procurement Cost		4.7								4.7

PRODUCTION LEADTIME: 12 Months



# AQL Phase III Hardware Upgrade 1-96-444-4444

Installation Schedule:

	FY 96 & Prior	FY 97	FY 98	FY 99	FY 00	FY 01	Total
<b>Inputs</b>							
FY 96 & Prior	1						1
FY 97							
FY 98							
FY 99							
<b>Outputs</b>							
FY 96 & Prior		1					1
FY 97							
FY 98							
FY 99							
<b>Inputs</b>							
FY 00	1	2	3	4	1	2	13
FY 01							
FY 02							
FY 03							
<b>Outputs</b>							
FY 00							
FY 01							
FY 02							
FY 03							
FY 04							
FY 05							
<b>Total</b>	1	2	3	4	1	2	13

INDIVIDUAL MODIFICATION																
MODIFICATION TITLE:	System 2 Block Upgrade 1-96-666-6666															
MODELS OF SYSTEMS AFFECTED:	GUARDRAIL/Common Sensor System 2 / RC-12P/Q															
DESCRIPTION / JUSTIFICATION:	<p>The GUARDRAIL/Common Sensor System 2 Block Upgrade is a modification to the System 2 production contract. It provides the required outyear efforts in support of the basic GR/CS System 2 program and major ECPs to include Advanced Situations Analysis and Reporting Tools (ASART) and Direct Air to Satellite Relay (DASR). These ECPs were awarded with prior year funds and included installation costs. These funds are the annualized costs required to support these efforts. These annualized costs include contractor and government engineering, interim contractor support, training, testing, fielding, and program management. There are no hardware quantity procurements planned.</p>															
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>IPF Upgrade Award:</td> <td>1QFY93</td> </tr> <tr> <td>DASR Contract Awards:</td> <td>4QFY94</td> </tr> <tr> <td>ASART Contract Award:</td> <td>4QFY94</td> </tr> <tr> <td>System Fielding:</td> <td>2QFY99</td> </tr> <tr> <td>M - Demo:</td> <td>4QFY99</td> </tr> <tr> <td>System Hand-Off:</td> <td>4QFY99</td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	IPF Upgrade Award:	1QFY93	DASR Contract Awards:	4QFY94	ASART Contract Award:	4QFY94	System Fielding:	2QFY99	M - Demo:	4QFY99	System Hand-Off:	4QFY99	
PLANNED	ACCOMPLISHED															
IPF Upgrade Award:	1QFY93															
DASR Contract Awards:	4QFY94															
ASART Contract Award:	4QFY94															
System Fielding:	2QFY99															
M - Demo:	4QFY99															
System Hand-Off:	4QFY99															

INDIVIDUAL MODIFICATION																				
System 2 Block Upgrade 1-96-666-6666																				
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 96 and Prior		FY 97		FY 98		FY 99		FY 00		FY 01		FY 02		FY 03		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Equipment		99.3																		99.3
Equipment Nonrecurring		46.6																		46.6
Engineering Change Orders		2.5																		2.5
GFE / Aircraft Support		1.6		4.8		3.6		1.7												11.7
Testing		3.1		1.1		2.1		1.1												7.4
Support Equipment		0.5		1.0		0.4		0.4												2.1
Gov't In-House/Prg Mgmt Adm		6.8		3.3		1.3		1.2												12.6
Contractor Engineering		6.2		4.1		4.0		3.3												17.5
Training / Fielding		0.3		0.5		0.4		1.5												2.7
Other		3.5		0.1		0.6		3.8												3.6
Interim Contractor Support		0.2		0.4																5.0
Installation of Hardware																				
FY 96 & Prior Eqpt -- Kits																				
FY 97 Eqpt -- Kits																				
FY 98 Eqpt -- Kits																				
FY 99 Eqpt -- Kits																				
FY 00 Eqpt -- kits																				
FY 01 Eqpt -- kits																				
FY 02 Eqpt -- kits																				
FY 03 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost		170.7		15.3		12.4		12.9												211.1
METHOD OF IMPLEMENTATION Contractor																				
Contract Dates: FY 97:      FY 98:      FY 99:      PRODUCTION LEADTIME:      N/A      Months																				
Delivery Date: FY 97:      FY 98:      FY 99:																				

METHOD OF IMPLEMENTATION Contractor  
 Contract Dates: FY 97: FY 98: FY 99:  
 Delivery Date: FY 97: FY 98: FY 99:

ADMINISTRATIVE LEADTIME: N/A Months  
 PRODUCTION LEADTIME: N/A Months

System 2 Block Upgrade 1-96-666-6666												
Installation Schedule:												
	FY 96 & Prior	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05	Total	
<b>Inputs</b>												
FY 96 & Prior	1	2	3	4	1	2	3	4	1	2	3	4
FY 97												
FY 98												
FY 99												
<b>Outputs</b>												
FY 96 & Prior												
FY 97												
FY 98												
FY 99												
<b>Inputs</b>												
FY 00	1	2	3	4	1	2	3	4	1	2	3	4
FY 01												
FY 02												
FY 03												
<b>Outputs</b>												
FY 00												
FY 01												
FY 02												
FY 03												

INDIVIDUAL MODIFICATION																																		
MODIFICATION TITLE:	TIBS and TRIXS for GR/CS 1-96-777-7777																																	
MODELS OF SYSTEMS AFFECTED:	GUARDRAIL/Common Sensor System 3 / RC-12H, Sys 4 / RC-12K, Sys 1 / RC-12N, Sys 2 / RC-12P																																	
DESCRIPTION / JUSTIFICATION:	<p>This modification provides a Tactical Information Broadcast Service (TIBS) capability for GR/CS Systems 3, 4, and 1 and provides Tactical Reconnaissance Intelligence Exchange System (TRIXS) capability for all GR/CS systems. The TRIXS capability will allow broadcast and receive on both the collateral and SI networks.</p>																																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:																																		
	<table border="1"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>TIBS Contract Award:</td> <td>3QFY96</td> <td>4QFY96</td> </tr> <tr> <td>TRIXS Contract Award:</td> <td>3QFY97</td> <td></td> </tr> <tr> <td>TIBS System Requirement Review:</td> <td>1QFY97</td> <td>1QFY97</td> </tr> <tr> <td>TRIXS System Requirement Review:</td> <td>1QFY98</td> <td></td> </tr> <tr> <td>TIBS Quarterly Reviews:</td> <td>Quarterly</td> <td></td> </tr> <tr> <td>TRIXS Quarterly Reviews:</td> <td>Quarterly</td> <td></td> </tr> <tr> <td>TIBS Preliminary Acceptance Test:</td> <td>4QFY97</td> <td></td> </tr> <tr> <td>TRIXS Preliminary Acceptance Test:</td> <td>4QFY98</td> <td></td> </tr> <tr> <td>TIBS Final Acceptance Test:</td> <td>1QFY98</td> <td></td> </tr> <tr> <td>TRIXS Final Acceptance Test:</td> <td>1QFY99</td> <td></td> </tr> </tbody> </table>		PLANNED	ACCOMPLISHED	TIBS Contract Award:	3QFY96	4QFY96	TRIXS Contract Award:	3QFY97		TIBS System Requirement Review:	1QFY97	1QFY97	TRIXS System Requirement Review:	1QFY98		TIBS Quarterly Reviews:	Quarterly		TRIXS Quarterly Reviews:	Quarterly		TIBS Preliminary Acceptance Test:	4QFY97		TRIXS Preliminary Acceptance Test:	4QFY98		TIBS Final Acceptance Test:	1QFY98		TRIXS Final Acceptance Test:	1QFY99	
	PLANNED	ACCOMPLISHED																																
TIBS Contract Award:	3QFY96	4QFY96																																
TRIXS Contract Award:	3QFY97																																	
TIBS System Requirement Review:	1QFY97	1QFY97																																
TRIXS System Requirement Review:	1QFY98																																	
TIBS Quarterly Reviews:	Quarterly																																	
TRIXS Quarterly Reviews:	Quarterly																																	
TIBS Preliminary Acceptance Test:	4QFY97																																	
TRIXS Preliminary Acceptance Test:	4QFY98																																	
TIBS Final Acceptance Test:	1QFY98																																	
TRIXS Final Acceptance Test:	1QFY99																																	

INDIVIDUAL MODIFICATION																					
MODIFICATION TITLE (Cont): TIBS and TRIXS for GR/CS 1-96-777-7777																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 96 and Prior		FY 97		FY 98		FY 99		FY 00		FY 01		FY 02		FY 03		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
Installation Kits Nonrecurring																					
Equipment	3	3.6	4	2.8															4	2.8	
Equipment Nonrecurring																					
Engineering Change Orders		9.2		2.3															3	1.3	
Data																					
Training Equipment																					
Support Equipment																					
Other		0.3																			
Interim Contractor Support																					
Installation of Hardware																					
FY 96 & Prior Eqpt -- Kits																					
FY 97 Eqpt -- Kits			3	0.7																	
FY 98 Eqpt -- Kits					4	1.4													3	0.7	
FY 99 Eqpt -- Kits																			4	1.4	
FY 00 Eqpt -- kits																					
FY 01 Eqpt -- kits																					
FY 02 Eqpt -- kits																					
FY 03 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost			3	0.7	4	1.4															
Total Procurement Cost		13.0		12.6		1.4													7	2.2	
																					27.1

METHOD OF IMPLEMENTATION Contractor		ADMINISTRATIVE LEADTIME: 8 Months		PRODUCTION LEADTIME: 13 Months	
Contract Dates:	FY 97: May 97	FY 98: June 98	FY 99: May 99	FY 99: June 99	
Delivery Date:	FY 97:	FY 98:	FY 99:		

Installation Schedule: TIBS and TRIXS for GR/CS 1-96-777-7777

	FY 96 & Prior	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	Total
<b>Inputs</b>									
FY 96 & Prior									3
FY 97									4
FY 98									
FY 99									
<b>Outputs</b>									
FY 96 & Prior									3
FY 97									4
FY 98									
FY 99									
<b>Inputs</b>									
FY 00									
FY 01									
FY 00									
FY 01									
<b>Outputs</b>									
FY 00									
FY 01									
FY 00									
FY 01									



BUDGET ITEM JUSTIFICATION SHEET								DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE							
AIRCRAFT PROCUREMENT (Modification of Aircraft)		AH1F MODS (AA0150)							
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
QUANTITY	0	0	0	0	0	0	0	0	
COST (in millions)	2.5	1.1	0.5	0.5	0.5	0.5	0.5	0.5	
<p>DESCRIPTION: The AH-1 is a single-engine, tandem seated helicopter with a maximum gross weight of 10,000 pounds and a T53L703 1800 SHP engine. The armament system consists of the M65 TOW Missile System, 20mm gun, and Hydra-70 rockets. The programs during FY95-01 provide for Rewire modification. All modifications are complete except Rewire. AH-1F fleet will be 402 aircraft through FY15. Funding is also required for safety and sustainment modifications, in addition to operational improvement modifications required to meet mission requirements through the year 2015.</p> <p>JUSTIFICATION: FY98 and FY99 funds will provide for safety and sustainment modifications for AH-1 aircraft system.</p>									



MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	py FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
AH1F MODS									
AA0150									
Rewire	3.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	4.8
Safety and Sustainment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	3.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	4.8

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Rewire 1-93-01-0907			
MODELS OF SYSTEMS AFFECTED: AH-1 COBRATOW			
DESCRIPTION / JUSTIFICATION:			
<p>Wiring of AH1 aircraft in Eighth United States Army (EUSA) began as a maintenance refurbishment program for specific aircraft in need of repair. Rewiring of remaining fleet of AH1 aircraft will replace the Kapton wire (which is deteriorating resulting in an increasing safety hazard and causing increased maintenance fleetwide) with new tefzel (MIL-W-22759) wiring. A class 2 Engineering Change Proposal (ECP) was approved 28 May 1992 for this change. The government of Korea paid for installations in Korea under a cost sharing program.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
Kit development is complete.			

INDIVIDUAL MODIFICATION															February 1997							
MODIFICATION TITLE (Cont): Rewire 1-93-01-0907															Date							
FINANCIAL PLAN: (\$ in Millions)																						
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL				
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
100	8.3																	100	8.3			
RDT&E																						
PROCUREMENT																						
Kit Quantity																						
Installation Kits																						
Installation Kits Nonrecurring																						
Equipment																						
Equipment Nonrecurring																						
Engineering Change Orders																						
Data																						
Training Equipment																						
Support Equipment																						
Other																						
Interim Contractor Support																						
Installation of Hardware																						
FY 1996 & Prior Eqpt --100																						
94	3.9	6	0.9															100	4.8			
FY 1997 Eqpt -- Kits																						
FY 1998 Eqpt -- Kits																						
FY 1999 Eqpt -- Kits																						
FY 2000 Eqpt -- Kits																						
FY 2001 Eqpt -- Kits																						
FY 2002 Eqpt -- Kits																						
FY 2003 Eqpt -- Kits																						
(FY(TC) Eqpt (xx Kits)																						
94	3.9	6	0.9															100	4.8			
Total Installation Cost																						
	12.2		0.9																13.1			
Total Procurement Cost																						
METHOD OF IMPLEMENTATION Contractor															ADMINISTRATIVE LEADTIME:		6 Months		PRODUCTION LEADTIME:		4 Months	
Contract Dates:															FY 1997:		FY 1998:		FY 1999:		FY 1999:	
Delivery Date:															FY 1997:		FY 1998:		FY 1999:		FY 1999:	

Installation Schedule: Rewire 1-93-01-0907												
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Date	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Total
<b>Inputs</b>												
FY 1996 & Prior	98	2										100
FY 1997												
FY 1998												
FY 1999												
<b>Outputs</b>												
FY 1996 & Prior	94	6										100
FY 1997												
FY 1998												
FY 1999												
<b>Inputs</b>												
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001												
FY 2002												
FY 2003												
<b>Outputs</b>												
FY 2000												
FY 2001												
FY 2002												
FY 2003												
<b>Remarks:</b>												

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE:	February 1997	
Safety and Sustainment 1-91-01-0969		
MODELS OF SYSTEMS AFFECTED:	AH-1 COBRA/TOW	
DESCRIPTION / JUSTIFICATION:	Funds are required to procure modifications required to fix potential safety issues and sustain the aircraft's current performance.	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
<div>PLANNED</div> <div>ACCOMPLISHED</div>		





Installation Schedule: Safety and Sustainment 1-91-01-0969													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Inputs													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT, ARMY/2: Modification of Aircraft										
P-1 ITEM NOMENCLATURE										AH-64 MODS (AA6805)
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	0	0	0	0	0	0	0	0	0	
COST (in millions)	52.2	42.8	41.2	71.0	60.9	60.4	65.5	65.7		
<p><b>DESCRIPTION:</b> The AH-64 is a single main rotor, twin engine, tandem seat attack helicopter armed with HELLFIRE antitank missiles, 2.75 inch rockets, and 30MM gun. The AH-64 is capable of defeating armor in day, night, and adverse weather. The Target Acquisition Designation Sight (TADS) is housed in a turret on the nose of the AH-64 and consists of a TV, Forward Looking Infrared (FLIR), Direct View Optics, Laser Designator/Rangefinder and Spot Tracker. The Pilot Night Vision Sensor (PNVS) is a FLIR which allows Nap-of-Earth operations at night by the pilot independent of the co-pilot/gunner's FLIR.</p> <p><b>JUSTIFICATION:</b> As the Army's primary Attack Helicopter, the AH-64 has been integrated in maneuver and fire plans of the combined arms team and will have the primary mission of destroying high value targets. The firepower, speed and agility of the AH-64 will provide a versatility to the combined arms team not otherwise available. Modifications are based on fleetwide reliability, availability, and maintainability (RAM) improvements and limited operational enhancements identified as a result of lessons learned during Operation Desert Storm. Funding for FY98 buys the following modifications:</p> <ul style="list-style-type: none"> <li>a. Backup Control System (BUCS)</li> <li>b. Fuel Control Warning Panel</li> <li>c. Embedded GPS/Inertial Navigation System (EGI)</li> <li>d. H-11 Bolt Replacement</li> <li>e. Airframe Modifications</li> <li>f. Alternate Laser Code</li> <li>g. TADS/PNVIS I/II Upgrades</li> <li>h. TADS/PNVIS Upgrades</li> </ul>										

# BUDGET ITEM JUSTIFICATION SHEET

DATE

February 1997

APPROPRIATION / BUDGET ACTIVITY

P-1 ITEM NOMENCLATURE

AIRCRAFT PROCUREMENT, ARMY/2. Modification of Aircraft

AH-64 MODS (AA6605)

OSIP No.	Description	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Classification	All PYs							
1-86-01-2025	Backup Control System (BUCS)							
Unclassified	4.3	3.6	3.8	5.6	4.1	3.3	3.5	3.6
1-89-01-2063	Fuel Control Warning Panel							
Unclassified	5.6	2.2	2.1	1.7	1.4	0.0	0.0	0.0
1-92-01-2072	Embedded GPS / Inertial Navigation System (EGI)							
Operational	70.8	7.9	5.5	0.5	0.0	0.0	0.0	0.0
1-92-01-2035	H-11 Bolt Replacement							
Safety	5.2	0.5	0.8	0.9	1.0	1.1	1.1	1.3
1-92-01-2034	Captive Boresight Harmonization Kit (CBHK) Upgrade							
Op/Log	17.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-95-01-2007	Airframe Modifications							
Op/Log	1.0	4.2	4.6	4.9	6.3	6.5	7.0	7.1
1-92-01-2033	Alternate Laser Code							
Operational	13.9	11.5	12.7	26.3	26.4	26.6	4.5	0.0
1-93-01-2091	Forward Looking Infrared (FLIR) Image Shading (No P3a Set)							
Operational	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-94-01-2004	TADS/PNVS I/II upgrades							
Unclassified	43.0	10.5	7.0	7.1	0.0	0.0	0.0	0.0
1-94-01-2005	TADS/PNVS Upgrades							
Unclassified	1.4	2.2	4.0	4.9	6.3	7.1	7.2	7.4
NA	AITP 01 (No P3a Set)							
Unclassified	0.0	0.0	0.0	0.0	0.0	0.0	8.1	6.3
NA	Miscellaneous Installation Cost Less Than 500K (No P3a Set)							
Unclassified	1.8	0.2	0.7	0.2	2.1	2.2	1.7	1.9
1-91-01-2093	Image Intensifier (I2)							
Unclassified	0.0	0.0	0.0	10.0	3.6	4.2	15.9	15.3
NA	Apache Integrated Training Program Trainer Upgrade							
Unclassified	0.0	0.0	0.0	3.2	4.0	3.8	10.3	16.5
NA	Cat B Trainer Restoration							
Unclassified	0.0	0.0	0.0	5.7	5.7	5.6	6.2	6.3

[illegible]

February 1997

**P-1 ITEM NOMENCLATURE**

AIRCRAFT PROCUREMENT, ARMY/2. Modification of Aircraft

AH-64 MODS (AA6605)

Totals	165.1	42.8	41.2	60.9	60.4	65.5
				71.0		65.7

MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Sat for modification									
AH-64 MODS									
AA6605									
Backup Control System (BUCS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Control Warning Panel	0.2	1.7	1.8	1.7	1.4	0.0	0.0	0.0	6.8
Embedded GPS / Inertial Navigation System (EGI)	0.8	4.2	4.3	0.5	0.0	0.0	0.0	0.0	9.8
H-11 Bolt Replacement	0.3	0.4	0.7	0.9	1.0	1.1	1.1	1.3	6.8
Captive Boresight Harmonization Kit (CBHK) Upgrade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Airframe Modifications	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alternate Laser Code	0.0	0.1	0.2	0.3	0.8	1.3	1.2	0.0	3.9
Forward Looking Infrared (FLIR) Image Shading	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
TADS/PNVS I/II upgrades	0.7	1.0	1.3	2.3	0.0	0.0	0.0	0.0	5.3
TADS/PNVS Upgrades	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AITP 01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous Installation Cost Less Than 500K	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Image Intensifier (I2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apache Integrated Training Program Trainer Upgrade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cat B Trainer Restoration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2.9	7.4	8.3	5.7	3.2	2.4	2.3	1.3	33.5

\* Denotes no P3A's

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Backup Control System (BUCS) 1-86-01-2025	
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache	
DESCRIPTION / JUSTIFICATION:		<p>Operational requirement. This modification is required to bring all AH-64 Apache aircraft to a BUCS active configuration. This modification includes a redesign of BUCS. The redesign will be accomplished as part of the Longbow remanufacture line beginning with Lot II incorporation. Lot I aircraft will be retrofitted.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<u>PLANNED</u>  Jun-97 Nov-97	<u>ACCOMPLISHED</u>
Contract Award Date of First Delivery of Hardware			

INDIVIDUAL MODIFICATION														Date		February 1997						
MODIFICATION TITLE (Cont): Backup Control System (BUCS) 1-86-01-2025																						
FINANCIAL PLAN: (\$ in Millions)																						
RDT&E PROCUREMENT Kit Quantity Installation Kits Installation Kits Nonrecurring Equipment Equipment Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other PM System Support  Installation of Hardware FY 1996 & Prior Eqpt 0 Kits FY 1997 Eqpt 35 Kits FY 1998 Eqpt 55 Kits FY 1999 Eqpt 60 Kits FY 2000 Eqpt 60 Kits FY 2001 Eqpt 65 Kits FY 2002 Eqpt 67 Kits FY 2003 Eqpt 67 Kits (FY(TC) Eqpt (313 kits) Total Installation Cost Total Procurement Cost	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL			
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
			35	1.6	55	2.6	60	2.9	60	3.0	65	3.3	67	3.5	67	3.6			325	18.5	734	39.0
	3.3																				3.3	
							24	1.5													24	1.5
</																						

METHOD OF IMPLEMENTATION Contractor teams

Contract Dates:

FY 1997: Jun 97  
FY 1997: Nov 97

ADMINISTRATIVE LEADTIME:

2 Months  
Nov 97  
Apr 98

PRODUCTION LEADTIME:

5 Months  
Nov 98  
Apr 99

Installation Schedule: Backup Control System (BUCS) 1-86-01-2025																															
FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				February 1997							
& Prior				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total							
Inputs																															
FY 1996 & Prior																												35			
FY 1997																												55			
FY 1998																												60			
FY 1999																															
Outputs																															
FY 1996 & Prior																															
FY 1997																															
FY 1998																															
FY 1999																															



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Fuel Control Warning Panel 1-89-01-2063	
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache	
DESCRIPTION / JUSTIFICATION:		<p>Operational/safety. Modification to provide tactile discrimination of the fuel cross-feed on both the pilot and copilot/gunner panels and provide added annunciation on the pilot and copilot/gunner caution warning panel to indicate valve operation for fuel cross-feed and fuel transfer. This modification provides opposite cockpit awareness of fuel control mode and override status.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED  Aug-94 Apr-96	ACCOMPLISHED  Aug-94 Apr-96
Contract award Date of first delivery			





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Embedded GPS / Inertial Navigation System (EGI) 1-92-01-2072		
MODELS OF SYSTEMS AFFECTED:	AH-64 Apache		
DESCRIPTION / JUSTIFICATION:	<p>Operational/Desert Storm. This modification integrates an embedded Global Positioning System in an Inertial Navigation System box (EGI) into the AH-64A Apache. This Joint Service program provides a significant increase in accuracy for the navigation and fire control systems. This EGI is identical to the one being installed on the Longbow.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Contract Award Four Prototype Boxes Date of First delivery	<div>PLANNED</div> <div>Feb-94 Apr-94</div>	<div>ACCOMPLISHED</div> <div>Mar-94 Jun-94</div>	
Production Contract Award (FY 94 ECP) Date of First delivery	<div>Aug-94 Jun-96</div>	<div>Aug-94 Apr-96</div>	
Production Contract Award (FY 94 LRU's) Date of First delivery	<div>Aug-94 Sep-95</div>	<div>Aug-94 Sep-95</div>	
Production Contract Award (FY 95 LRU's) Date of First delivery	<div>Apr-95 May-96</div>	<div>Apr-95 May-96</div>	
Date of First installation (FY94 ECP)	<div>Jul-96</div>	<div>Apr-96</div>	

INDIVIDUAL MODIFICATION																					
MODIFICATION TITLE (Cont): Embedded GPS / Inertial Navigation System (EGI) 1-92-01-2072																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity	500	3.3																		500	3.3
Installation Kits																					
Installation Kits Nonrecurring Equipment	50	34.0																		50	34.0
Equipment Nonrecurring		10.7																			10.7
Engineering Change Orders																					
Data		3.2																			3.2
Training Equipment		2.1																			2.1
Support Equipment		4.3																			4.3
Other		9.4		1.9		0.3															11.6
PM System Support		3.0		1.8		0.9															5.7
Installation of Hardware																					
FY 1996& Prior Eqpt 500 Kits	42	0.8	216	4.2	216	4.3	26	0.5												500	9.8
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost	42	0.8	216	4.2	216	4.3	26	0.5												500	9.8
Total Procurement Cost		70.8		7.9		5.5		0.5													84.7

METHOD OF IMPLEMENTATION	Contractor Teams	ADMINISTRATIVE LEADTIME:	9 Months	PRODUCTION LEADTIME:	13 Months
Contract Dates:	FY 1997:	FY 1998:		FY 1999:	
Delivery Date:	FY 1997:	FY 1998:		FY 1999:	



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: H-11 Bolt Replacement 1-92-01-2035			
MODELS OF SYSTEMS AFFECTED: AH-64 Apache			
DESCRIPTION / JUSTIFICATION: Safety improvement. This modification addresses Federal Aviation Administration (FAA) advisory that H-11 hardware is subject to a higher than normal failure rate due to stress corrosion cracking and could potentially result in a safety problem. FAA recommended replacement of the H-11 hardware with acceptable substitutes such as Inconel.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED May-95 Aug-96	ACCOMPLISHED May-95 Aug-96
Production Contract Award Date of First Installation			





Installation Schedule: H-11 Bolt Replacement 1-92-01-2035																
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997				
& Prior		1		2		3		4		1		2		3		
		1		2		3		4		1		2		3		
Inputs														4		
FY 1996 & Prior	47	18	18	19	19	20	21	21	21	21	21	22	22	13	14	14
FY 1997																
FY 1998																
FY 1999																
<b>Outputs</b>																
FY 1996 & Prior	47	18	18	19	19	20	21	21	21	21	21	22	22	13	14	14
FY 1997																
FY 1998																
FY 1999																
<b>Inputs</b>																
FY 1996 & Prior		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
FY 1997																
FY 1998																
FY 1999																
<b>Outputs</b>																
FY 1996 & Prior		15	15	15	15	17	17	18	18	18	18	18	18	18	18	18
FY 1997																
FY 1998																
FY 1999																
<b>Remarks:</b>																

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Captive Boresight Harmonization Kit (CBHK) Upgrade 1-92-01-2034	
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache	
DESCRIPTION / JUSTIFICATION:			
<p>Logistical improvement. Modification will incorporate 3 Axis Electro-Optic measurement technology and upgrade existing mechanical components. This modification will extend the recalibration cycle from 6 to 15 months, reduce the amount of time required to boresight the gun and pylons, and reduce the number of transport cases from 5 to 3. Modification will be compatible with the Longbow aircraft. The CBHK is a piece of peculiar ground support equipment for the Apache aircraft.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Contract Award (Prototype, 2 Kits)		PLANNED	ACCOMPLISHED
Date of First delivery		Sep-92 Jun-94	Sep-92 Jun-94
Production Contract Award		Aug-95	Jul-95
Date of First delivery		Dec-95	Dec-95

INDIVIDUAL MODIFICATION														
MODIFICATION TITLE (Cont): Captive Boresight Harmonization Kit (CBHK) Upgrade 1-92-01-2034														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL				
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
RDT&E														
PROCUREMENT														
Kit Quantity														
Installation Kits														
Installation Kits Nonrecurring Equipment														
Equipment Nonrecurring	3.6													3.6
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment	156													156
Other														10.8
PM System Support														2.8
Installation of Hardware														
FY 1996 & Prior Eqpt 156 Kits	45	60	51											156
FY 1997 Eqpt -- Kits														
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- kits														
FY 2001 Eqpt -- kits														
FY 2002 Eqpt -- kits														
FY 2003 Eqpt -- kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost	45	60	51											156
Total Procurement Cost														17.2

METHOD OF IMPLEMENTATION		Contractor teams		ADMINISTRATIVE LEADTIME:		5 Months		PRODUCTION LEADTIME:		4 Months	
Contract Dates:		FY 1997:		FY 1998:		FY 1999:		FY 1998:		FY 1999:	
Delivery Date:		FY 1997:		FY 1998:		FY 1999:		FY 1998:		FY 1999:	

Installation Schedule: Captive Boresight Harmonization Kit (CBHK) Upgrade 1-92-01-2034																						
FY 1996			FY 1997			FY 1998			FY 1999			FY 2000			FY 2001			February 1997				
& Prior			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total			
Inputs																						
FY 1996 & Prior			45	15	15	15	15	15	15	15	6											156
FY 1997																						
FY 1998																						
FY 1999																						
Outputs																						
FY 1996 & Prior			35	15	15	15	15	15	15	15	1											156
FY 1997																						
FY 1998																						
FY 1999																						
</																						

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Airframe Modifications 1-95-01-2007			
MODELS OF SYSTEMS AFFECTED: AH-64 Apache			
DESCRIPTION / JUSTIFICATION: Operational and logistical improvement. This modification provides for strengthening airframe components to withstand higher loading. Funding addresses three primary areas plus several additional areas susceptible to cracking. Specific modifications include strengthening components through application of additional material and replacement of components with different material. Required for AH-64A and extremely important for Longbow due to increase in weight.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED Nov-96 Mar-97	ACCOMPLISHED Dec-96
Contract Award Date of First delivery			

INDIVIDUAL MODIFICATION														Date		February 1997		
MODIFICATION TITLE (Cont):																		
Airframe Modifications 1-95-01-2007																		
FINANCIAL PLAN: (\$ in Millions)																		
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E PROCUREMENT Kit Quantity Installation Kits Installation Kits Nonrecurring Equipment Equipment Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other PM System Support	30	2.1	50	3.8	60	4.7	72	6.2	72	6.5	72	7.0	72	7.1	330	39.7	758	77.1
		0.8		1.2														2.0
Installation of Hardware FY 1996 & Prior Eqpt -- Kits FY 1997 Eqpt 30 Kits FY 1998 Eqpt 50 Kits FY 1999 Eqpt 60 Kits FY 2000 Eqpt 72 kits FY 2001 Eqpt 72 kits FY 2002 Eqpt 72 kits FY 2003 Eqpt 72 kits (FY(TC) Eqpt (330 kits) Total Installation Cost Total Procurement Cost	12		18		35		52		60		9		10		330		30	
			15		8		3				62		62		10		50	
															72		60	
															72		72	
															72		72	
															72		72	
															330		330	
	12	4.2	33	4.6	43	4.9	55	6.3	60	6.5	71	7.0	72	7.1	412	39.7	758	81.3
	1.0																	
	METHOD OF IMPLEMENTATION Contractor Teams																	
Contract Dates: FY 1997: Nov 96 FY 1998: FY 1998: Mar 97 FY 1998: Mar 98 FY 1999: Nov 98 FY 1999: Mar 99																		
Delivery Date: 4 Months																		

METHOD OF IMPLEMENTATION Contractor Teams  
 Contract Dates: FY 1997: Nov 96  
 FY 1997: Mar 97

ADMINISTRATIVE LEADTIME:  
 FY 1998: Nov 96  
 FY 1998: Mar 97

PRODUCTION LEADTIME:  
 FY 1999: Nov 98  
 FY 1999: Mar 99

4 Months

Installation Schedule: **Airframe Modifications 1-95-01-2007**

[illegible]

Remarks:

There will be 330 kits procured after FY 2003 and installed later. Installation dollars are tied to Longbow remanufacture and included in the price of the equipment.

INDIVIDUAL MODIFICATION		Date	February 1997						
MODIFICATION TITLE:		Alternate Laser Code 1-92-01-2033							
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache							
DESCRIPTION / JUSTIFICATION:		<p>Operational improvement. This modification provides optimum laser targeting capability for the Hellfire Missile System under adverse countermeasure conditions and allows maximum use of planned Electro-Optic Counter Measures (EOCM) missile changes. Requires hardware/software modifications to the Laser Electronics Unit. Eliminates Remote Hellfire Electronics unit and four pylon Multiplex Remote Terminal Units (MRTU). Modification provides for compatibility with MIL-STD-1760. Provides modification to the Hellfire Launchers for use on the Longbow aircraft.</p>							
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="0"> <tr> <td>Contract Award</td> <td>PLANNED</td> <td>ACCOMPLISHED</td> </tr> <tr> <td>Date of First delivery</td> <td>Feb-96 May-97</td> <td>Jan-96</td> </tr> </table>		Contract Award	PLANNED	ACCOMPLISHED	Date of First delivery	Feb-96 May-97	Jan-96
Contract Award	PLANNED	ACCOMPLISHED							
Date of First delivery	Feb-96 May-97	Jan-96							



MODIFICATION TITLE (Cont): Alternate Laser Code 1-92-01-2033

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		6.3																		6.3
PROCUREMENT																				
Kit Quantity	8	0.1	21	0.4	33	0.7	105	2.3	103	2.3	42	1.0							312	6.8
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	30	1.8	84	4.8	132	7.1	420	18.5	412	17.7	410	17.6							1488	67.5
Equipment Nonrecurring		3.7																		3.7
Engineering Change Orders		0.2		0.3		0.3		0.5		0.5		0.5	0.4							2.7
Data																				0.2
Training Equipment		0.2		0.2		0.3		0.5		0.5		0.5	0.4							2.6
Support Equipment																				
Other		5.5		1.8		0.4		1.3		1.9		3.4	0.5							14.8
Interim Contractor Support				1.3		1.5		2.0		2.1		2.1	1.9							10.9
PM System Support		2.4		2.6		2.2		0.9		0.6		0.1								8.8
Installation of Hardware																				
FY 1996 & Prior Eqpt 8 Kits			4	0.1		4	0.1												8	0.2
FY 1997 Eqpt 21 Kits					9	0.1	12	0.1											21	0.2
FY 1998 Eqpt 33 Kits							14	0.2	19	0.3									33	0.5
FY 1999 Eqpt 105 Kits									46	0.5	59	0.7							105	1.2
FY 2000 Eqpt 103 kits											48	0.6	55	0.7					103	1.3
FY 2001 Eqpt 42 kits													42	0.5					42	0.5
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost			4	0.1	13	0.2	26	0.3	65	0.8	107	1.3	97	1.2					312	3.9
Total Procurement Cost		13.9		11.5		12.7		26.3		26.4		26.6		4.5						121.9

METHOD OF IMPLEMENTATION		Contractor Teams		ADMINISTRATIVE LEADTIME:		12 Months		PRODUCTION LEADTIME:		15 Months	
Contract Dates:		FY 1997: Jan 97		FY 1998: Jan 98		Jan-98		FY 1999: Jan-99		Jan-99	
Delivery Date:		FY 1997: May 98		FY 1998: May 98		May-99		FY 1999: May-00		May-00	

Installation Schedule: Alternate Laser Code 1-92-01-2033																		
FY 1996			FY 1997			FY 1998			FY 1999			FY 2000			FY 2001			February 1997
& Prior			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

INDIVIDUAL MODIFICATION		Date	February 1997									
MODIFICATION TITLE:		TADS/PNVS I/II upgrades 1-94-01-2004										
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache										
DESCRIPTION / JUSTIFICATION:		<p>Safety and logistical improvement. Provides for system upgrade through new/updated hardware integration into Lots I&amp;II TADS/PNVS systems. This configuration baseline upgrade will make the systems compatible with the rest of the Apache (TADS/PNVS) fleet. This effort will incorporate all ECP changes that were previously not required to be installed due to incompatibility of the systems. Additionally, this effort will eliminate anomalies associated with aging trainer aircraft that may cause them to be potentially unsafe to operate as a result of degraded fidelity. Provides for offsite contractor support for the upgrade/integration of hardware in the TADS/PNVS.</p>										
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="0"> <tr> <td></td> <td>PLANNED</td> <td>ACCOMPLISHED</td> </tr> <tr> <td>Contract Award</td> <td>May-95</td> <td>May-95</td> </tr> <tr> <td>Date of first delivery</td> <td>Aug-95</td> <td>Aug-95</td> </tr> </table>			PLANNED	ACCOMPLISHED	Contract Award	May-95	May-95	Date of first delivery	Aug-95	Aug-95
	PLANNED	ACCOMPLISHED										
Contract Award	May-95	May-95										
Date of first delivery	Aug-95	Aug-95										

INDIVIDUAL MODIFICATION														Date		February 1997					
MODIFICATION TITLE (Cont):														TADS/PNVS I/II upgrades 1-94-01-2004							
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity	30	24.8	15	7.2	9	4.5	9	4.6											63	41.1	
Installation Kits																					
Installation Kits Nonrecurring Equipment																					
Equipment Nonrecurring																					
Engineering Change Orders																					
Data		0.1																		0.1	
Training Equipment																					
Support Equipment		10.2																		10.2	
Other		7.2		2.3		1.2		0.2												10.9	
PM System Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt 30 Kits	11	0.7	16	1.0	3	0.3													30	2.0	
FY 1997 Eqpt 15 Kits					13	1.0	2	0.2											15	1.2	
FY 1998 Eqpt 9 Kits							9	1.0											9	1.0	
FY 1999 Eqpt 9 Kits							9	1.1											9	1.1	
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost	11	0.7	16	1.0	16	1.3	20	2.3											63	5.3	
Total Procurement Cost		43.0		10.5		7.0		7.1												67.6	
METHOD OF IMPLEMENTATION Contractor teams														ADMINISTRATIVE LEADTIME:		2 Months		PRODUCTION LEADTIME:		8 Months	
Contract Dates:														FY 1997: Oct 96		Oct 97		FY 1999: Oct 98		Jun 99	
Delivery Date:														FY 1997: Jun 97		Jun 98		FY 1999: Jun 99			

Installation Schedule: TADS/PNVS I/II upgrades 1-94-01-2004																										
FY 1996		FY 1997			FY 1998			FY 1999				FY 2000				FY 2001			FY 2002			FY 2003			Total	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																										
FY 1996 & Prior	11	4	4	4	4	3																				
FY 1997						1	4	4	4	2																
FY 1998										4	4	1														
FY 1999												4	5													
Outputs																										
FY 1996 & Prior	11	4	4	4	4	3																				
FY 1997						1	4	4	4	2																
FY 1998										4	4	1														
FY 1999												4	5													
Inputs																										
FY 2000																										
FY 2001																										
FY 2002																										
FY 2003																										
Outputs																										
FY 2000																										
FY 2001																										
FY 2002																										
FY 2003																										
Remarks:																										

INDIVIDUAL MODIFICATION		Date	February 1997									
MODIFICATION TITLE:		TADS/PNVS Upgrades 1-94-01-2005										
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache										
DESCRIPTION / JUSTIFICATION:		<p>Operational, and logistical improvement. Provide for system upgrade through new/updated hardware integration into Lots III thru XII TADS/PNVS systems. Facilitate maintainers access to TADS/PNVS systems thereby allowing for accelerated application of outstanding ECPs. Additionally, satisfies program growth and the life extension requirements and provides for offsite contractor support for upgrades/integration of hardware in the TADS/PNVS. This will also provide a single configuration TADS/PNVS to the Longbow. Critical AH-64D element.</p>										
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="0"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>Production Contract Award</td> <td>Dec-95</td> <td>Dec-95</td> </tr> <tr> <td>Date of first delivery</td> <td>Jun-96</td> <td>Jun-96</td> </tr> </tbody> </table>			PLANNED	ACCOMPLISHED	Production Contract Award	Dec-95	Dec-95	Date of first delivery	Jun-96	Jun-96
	PLANNED	ACCOMPLISHED										
Production Contract Award	Dec-95	Dec-95										
Date of first delivery	Jun-96	Jun-96										

INDIVIDUAL MODIFICATION															Date		February 1997							
MODIFICATION TITLE (Cont):															TADS/PNVS Upgrades 1-94-01-2005									
FINANCIAL PLAN: (\$ in Millions)																								
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL					
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
RDT&E																								
PROCUREMENT																								
Kit Quantity	26	1.2	26	1.7	45	3.3	64	4.8	70	6.1	70	7.1	70	7.2	70	7.4	317	39.2	758	78.0				
Installation Kits																								
Installation Kits Nonrecurring Equipment																								
Equipment Nonrecurring																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
Other																								
PM System Support		0.2		0.5		0.7		0.1		0.2										1.7				
Installation of Hardware																								
FY 1996 & Prior Eqpt 26 Kits	3		20		3															26				
FY 1997 Eqpt 26 Kits					26															26				
FY 1998 Eqpt 45 Kits					6		39													45				
FY 1999 Eqpt 64 Kits							7		57											64				
FY 2000 Eqpt 70 Kits											70									70				
FY 2001 Eqpt 70 Kits											2									70				
FY 2002 Eqpt 70 Kits													68							70				
FY 2003 Eqpt 70 Kits													4							70				
(FY(TC) Eqpt (317 kits)																								
Total Installation Cost	3		20		35		46		57		72		72		72		381		317					
Total Procurement Cost		1.4		2.2		4.0		4.9		6.3		7.1		7.2		7.4		39.2		79.7				
METHOD OF IMPLEMENTATION Enter Method															6 Months		6 Months		6 Months					
Contract Dates:															FY 1997: Dec 96		FY 1998: Oct 97		FY 1999: Oct 98					
Delivery Date:															FY 1997: Jun 97		FY 1998: Apr 98		FY 1999: Apr 99					

Installation Schedule: TADS/PNVS Upgrades 1-94-01-2005																								
FY 1996					FY 1997					FY 1998					FY 1999					FY 2000				
& Prior					1					2					3					4				
3					5					6					7					8				
FY 1996 & Prior					FY 1997					FY 1998					FY 1999					FY 2000				
Inputs					26					26					45					64				
FY 1996 & Prior	3	3	5	7	3	5	9	9	3	6	10	13	12	4	7	13	16	15	13					
FY 1997																								
FY 1998																								
FY 1999																								
Total																								
Outputs																								
FY 1996 & Prior	1	5	6	6	8																			
FY 1997						1	9	9	7															
FY 1998										2	10	12	12	9										
FY 1999															3	13	15	15	15	3				
Total																								
Inputs																								
FY 2000																								
FY 2001																								
FY 2002																								
FY 2003																								
Total																								
Outputs																								
FY 2000																								
FY 2001																								
FY 2002																								
FY 2003																								
Total																								
Remarks:																								
There will be 317 kits procured after FY2003 and installed later.																								
Installation is included in the equipment contract cost.																								



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Image Intensifier (I2) 1-91-01-2093			
MODELS OF SYSTEMS AFFECTED: AH-64 Apache			
DESCRIPTION / JUSTIFICATION:			
<p>Safety and operational improvement. Provides Pilot Night Vision Sensor (PNVS) improvement through the addition of an image intensification device. Modification of the PNVS sensor to incorporate an image intensification tube provides an alternate pilotage sensor to augment the Forward Looking InfraRed (FLIR) sensor during marginal thermal contrast conditions. The complementary thermal and image intensification sensors improve operational effectiveness by significantly expanding the environmental conditions, which allow safe pilotage of the aircraft. Addition of another spectral band enhances safety by providing an additional way to detect obstacles or flight hazards.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Preliminary Design Review	Mar-98		
Critical Design Review	Oct-98		
Contractor Test and Evaluation	Apr-99		
Development Test and Evaluation	Jul-99		
IPR Production Decision	Jan-00		
TDP Available	Jan 01		
Contract Award	Jan 01		
Date of First Delivery	Jan 02		



Installation Schedule: Image Intensifier (I2) 1-91-01-2093															
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2004		FY 2005	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	1	2
		Date													
		February 1997													
<b>Inputs</b>															
FY 1996 & Prior															
FY 1997															
FY 1998															
FY 1999															
<b>Outputs</b>															
FY 1996 & Prior															
FY 1997															
FY 1998															
FY 1999															
		1	2	3	4	1	2	3	4	1	2	3	4	1	2
		FY 2000													
		FY 2001													
		FY 2002													
		FY 2003													
		FY 2004													
		FY 2005													
		Total													
<b>Inputs</b>															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
<b>Outputs</b>															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
<b>Remarks:</b>															
There will be 555 kits installed later.															
Installation costs are included in the equipment contract.															

**There will be 555 kits installed later. Installation costs are included in the**

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Apache Integrated Training Program Trainer Upgrade NA	
MODELS OF SYSTEMS AFFECTED:		AH-64 Apache	
DESCRIPTION / JUSTIFICATION:		<p>Operational requirement. Upgrade Apache Training Devices in FY 99-03 to support training through FY08. Training Devices include Apache Crew Trainer (ACT), Armament/Electrical Trainer (AET-A7), Combat Mission Simulator (CMS), and Apache Collective Trainer System (ACTS).</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div> <div>PLANNED</div> <div> <div>Contract Award (CMS Upgrade)</div> <div>Software Development Begin (CMS Upgrade)</div> <div>IPR Hardware Selection (CMS)</div> </div> </div> <div> <div>PLANNED</div> <div> <div>Oct-98</div> <div>Nov-97</div> <div>Jan-98</div> </div> </div> <div> <div>ACCOMPLISHED</div> </div>	





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Cat B Trainer Restoration NA			
MODELS OF SYSTEMS AFFECTED: AH-64 Apache			
DESCRIPTION / JUSTIFICATION: Operational requirement. Reconfigure Cat B Trainers to meet induction criteria for modification to Longbow Apache (AH64D) manufacture line at contractor plant.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Induction at Corpus Christi Army Depot (CCAD) Induction to Modification Line		PLANNED Oct-98 Jan-99	ACCOMPLISHED

INDIVIDUAL MODIFICATION													
Cat B Trainer Restoration NA													
MODIFICATION TITLE (Cont):													
FINANCIAL PLAN: (\$ in Millions)													
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		TOTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty
RDT&E													
PROCUREMENT													
Kit Quantity													
Installation Kits													
Installation Kits Nonrecurring Equipment							5.5		5.6		5.6	6.3	29.2
Equipment Nonrecurring													
Engineering Change Orders													
Data													
Training Equipment													
Support Equipment													
Other													
Interim Contractor Support							0.2		0.1				0.3
PM System Support													
Installation of Hardware													
FY 1996 & Prior Eqpt -- Kits													
FY 1997 Eqpt -- Kits													
FY 1998 Eqpt -- Kits							3						3
FY 1999 Eqpt -- Kits													3
FY 2000 Eqpt -- Kits									3				3
FY 2001 Eqpt -- Kits											3		3
FY 2002 Eqpt -- Kits												3	3
FY 2003 Eqpt -- Kits													3
(FY(TC) Eqpt (xx kits)													
Total Installation Cost							3		3		3	6.3	15
Total Procurement Cost							5.7		5.7		5.6	6.3	29.5
METHOD OF IMPLEMENTATION Enter Method													
Contract Dates: FY 1997: FY 1998: FY 1999: Oct 98 Jan 99													
Delivery Date: FY 1997: FY 1998: FY 1999: Jan 99													





BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT /Modification of Aircraft		CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)									
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY		0	0	0	0	0	0	0	0	0	
COST (in millions)		11.1	51.5	63.9	110.8	87.4	201.2	187.1	187.1	187.1	

DESCRIPTION: The CH-47 heavy lift helicopter is a day/night tandem rotor helicopter powered by two T-55 turbine engines. The CH-47 is the Army's only active heavy cargo helicopter and is a key element in the Contingency CORPS. The CHINOOK provides invaluable battlefield mobility for tactical vehicles, artillery and engineer equipment, personnel and logistical support equipment. Cargo Helicopters provide the logistical base for Air-Land operations. The CHINOOK also provides support of operations other than war.

JUSTIFICATION: FY 98/99 funding procures safety and operational modifications to the CH-47D fleet plus trainers to maintain the latest configuration. Modifications are planned to fielded aircraft to incorporate safety and operational modifications to the CH-47D aircraft. These changes contribute to the effectiveness of heavy lift capability, maintainability, reliability, and aircraft/crew safety. The major modifications occurring during the FY 98/99 time frame are procurement of kits for Improved Rotor Head Shafts & Seals, Install Aft Pylon Fairing Vents, Cargo Hook Load Lights, Replacement of Thin Dense Chrome Plated Lag Damper Bolts with Cadmium Plated Bolts, Improved Battery, Replace Upper Seal for Swashplate, Flex Lines for Aft Pylon Hydraulics, Aft Pylon Airframe/Hydraulic/Electrical Quick Disconnects, Halon Replacement, Conversion of the T55-L-712 to T55-GA-714A Engines, and Engine Barrier Filter.

<b>BUDGET ITEM JUSTIFICATION SHEET</b>		DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE	
AIRCRAFT PROCUREMENT Modification of Aircraft		CH-47 CARGO HELICOPTER MODS (MYP) (AA0252)	

OSIP No.	Description	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Various	All PYs							
Operational/Safety	Installation of Modification Kits	50.1	1.2	0.9	0.0	0.0	0.0	0.0
1-95-01-0816	Work Platform - Aft Pylon							
Safety	0.0	2.2	0.1	0.2	0.0	0.0	0.0	0.0
1-95-01-0817	Improved Cross Shaft Adapters, Couplings, & Bolts							
Safety	0.0	1.1	0.0	0.4	0.0	0.0	0.0	0.0
1-94-01-0810	Cargo Hook Load Lights							
Operational	0.0	0.0	0.7	0.8	1.6	1.6	2.5	2.0
1-95-01-0818	Improved Rotor Head Shafts & Seals							
Operational	0.0	0.0	1.1	1.6	1.6	0.0	0.0	0.0
1-95-01-0814	Improved Latch for Aft Pylon Doors							
Safety	0.0	1.1	0.1	0.3	0.0	0.0	0.0	0.0
1-95-01-0819	Install Handholds in Center Cargo Hook Hatch							
Safety	0.0	1.9	0.0	0.5	0.0	0.0	0.0	0.0
1-95-01-0820	Install Aft Pylon Fairing Vents							
Safety	0.0	0.0	1.1	0.5	0.5	0.0	0.0	0.0
1-96-01-0822	Improved Battery							
Operational	0.0	0.0	1.5	0.0	0.1	0.1	0.0	0.0
1-96-01-0823	Replace Upper Seal for Swashplate							
Operational	0.0	0.0	1.7	0.7	1.1	1.8	0.0	0.0
1-96-01-0824	Flex Lines for Aft Pylon Hydraulics							
Safety	0.0	0.0	1.6	0.0	1.4	1.4	0.0	0.0
1-96-01-0825	Combining and Engine Transmission Input Pinion Bearings							
Operational	0.0	0.0	0.0	0.0	2.0	0.0	1.9	1.8
1-96-01-0826	Aft Pylon Airframe/Hydraulic/Electrical Disconnect							
Operational	0.0	0.0	0.0	1.7	0.8	1.7	1.2	0.0
1-95-01-0813	Halon Replacement							
Legislative	0.0	0.0	5.3	1.7	0.7	0.0	0.0	0.0
1-96-01-0828	Engine Upgrade to T55-GA-714A Configuration							
Operational	0.0	43.7	49.4	97.6	73.4	188.6	172.9	172.5



MODIFICATION INSTALLATION SUMMARY									
(TOA, Dollars in Millions)									Date February 1997
System/Modification	PY FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3a Set for modification</i>									
CH-47 CARGO HELICOPTER MODS (MYP)									
AA0252	14.3	1.4	1.2	0.9	0.0	0.0	0.0	0.0	17.8
Installation of Modification Kits									
Work Platform - Aft Pylon	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.3
Improved Cross Shaft Adapters, Couplings, & Bolts	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
Cargo Hook Load Lights	0.0	0.0	0.0	0.0	0.7	0.4	0.5	0.7	2.3
Improved Rotor Head Shafts & Seals	0.0	0.0	0.0	1.6	1.6	0.0	0.0	0.0	3.2
Improved Latch for Aft Pylon Doors	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.4
Install Handholds in Center Cargo Hook Hatch	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.5
Install Aft Pylon Fairing Vents	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	1.0
Improved Battery	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2
Replace Upper Seal for Swashplate	0.0	0.0	0.0	0.7	1.1	1.8	0.0	0.0	3.6
Flex Lines for Aft Pylon Hydraulics	0.0	0.0	0.0	0.0	1.4	1.4	0.0	0.0	2.8
Combining and Engine Transmission Input Pinion Bearings	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.8	3.7
Aft Pylon Airframe/Hydraulic/Electrical Disconnect	0.0	0.0	0.0	0.0	0.3	1.7	1.2	0.0	3.2
Halon Replacement	0.0	0.0	0.0	0.8	0.7	0.0	0.0	0.0	1.5
Engine Upgrade to T55-GA-714A Configuration	0.0	0.0	0.4	0.3	0.8	0.5	1.5	1.3	4.8
Engine Barrier Filter	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.2	2.8
TOTALS	14.3	1.4	1.8	6.2	7.2	6.7	5.9	5.0	48.5

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Installation of Modification Kits Various			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and MH-47E			
DESCRIPTION / JUSTIFICATION: Modification kits procured with FY 94 and prior funding remain uninstalled due to deliveries, scheduling, and funding. This funding will install these modification kits in the CH-47D aircraft and the MH-47E aircraft where appropriate. Installing all kits in all aircraft will result in more efficient maintenance, increased operational capability, and safety improvements.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
Installations are ongoing.			

MODIFICATION TITLE (Cont): Installation of Modification Kits Various

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	11517																		11517	
Installation Kits																				
Installation Kits Nonrecurring		35.8																		35.8
Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Pr Eqpt - 11517	7523	14.3	1350	1.4	1235	1.2	1409	0.9											11517	17.8
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost	7523	14.3	1350	1.4	1235	1.2	1409	0.9											11517	17.8
Total Procurement Cost		50.1		1.4		1.2		0.9												53.6

METHOD OF IMPLEMENTATION: Contract Field Teams ADMINISTRATIVE LEADTIME: PRODUCTION LEADTIME:  
 Contract Dates: FY 1997: FY 1998: FY 1999:  
 Delivery Date: FY 1997: FY 1998: FY 1999:





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Work Platform - Aft Pylon 1-95-01-0816			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E, and Trainers			
DESCRIPTION / JUSTIFICATION:			
<p>Type of Improvement - Safety. During normal maintenance of the CH-47D aircraft, cracks have been noticed in the pin area of the platform. The pin area secures the work platform. This Engineering Change will eliminate these cracks by redesigning the work platform to eliminate the cracks. Continued cracking could result in the platform releasing from the aircraft causing safety concerns.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	May 97		
First Production Hardware Delivery	Apr 98		
Field Retrofit Initiated	Jun 98		

INDIVIDUAL MODIFICATION															February 1997						
MODIFICATION TITLE (Cont): Work Platform - Aft Pylon 1-95-01-0816																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits			481	2.2																481	2.2
Installation Kits Nonrecurring Equipment																					
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- 481 Kits																					
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- kits																					
FY 2001 Eqpt -- kits																					
FY 2002 Eqpt -- kits																					
FY 2003 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost																				481	0.3
Total Procurement Cost																					2.5

METHOD OF IMPLEMENTATION Contract Field Teams									
Contract Dates:		FY 1997		May 1997		ADMINISTRATIVE LEADTIME:		9 Months	
Delivery Date:		FY 1997		April 1998		PRODUCTION LEADTIME:		12 Months	
						FY 1999		FY 1999	



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Improved Cross Shaft Adapters, Couplings, & Bolts 1-95-01-0817	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK, MH-47E, and Trainers	
DESCRIPTION / JUSTIFICATION:		<p>Type of Improvement - Safety. This modification is to improve Cross Shaft Adapters, Couplings, and Bolts. Field reports have identified failure of the steel cross shaft adapters. Corrosion pitting inside the bolt holes have served as stress risers for fatigue failures. Correction of this deficiency will reduce maintenance, resolve safety concerns, and increase reliability and maintainability.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div> <div>PLANNED</div> <div> <div>Aug 97</div> <div>Jul 98</div> <div>Jan 99</div> </div> </div> <div> <div>Production Contact Award</div> <div>First Production Hardware Delivery</div> <div>Field Retrofit Initiated</div> </div>	<div>ACCOMPLISHED</div>

February 1997

Date

INDIVIDUAL MODIFICATION

Improved Cross Shaft Adapters, Couplings, & Bolts 1-95-01-0817

MODIFICATION TITLE (Cont):

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			471	1.1															471	1.1
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt --471 Kits							471	0.4											471	0.4
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- Kits																				
FY 2003 Eqpt -- Kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost							471	0.4											471	0.4
Total Procurement Cost				1.1				0.4												1.5

METHOD OF IMPLEMENTATION: Contract Field Teams

Contract Dates:

Delivery Date:

FY 1997: August 1997

FY 1997: July 1998

ADMINISTRATIVE LEADTIME:

FY 1998:

FY 1998:

9 Months

PRODUCTION LEADTIME:

FY 1999:

FY 1999:

12 Months

Installation Schedule: Improved Cross Shaft Adapters, Couplings, & Bolts 1-95-01-0817													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													Total
FY 1996 & Prior													
FY 1997						151	160	160					471
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997						151	160	160					471
FY 1998													
FY 1999													
Inputs													
FY 2000													
FY 2001													
FY 2004													
FY 2005													
Outputs													
FY 2000													
FY 2001													
FY 2004													
FY 2005													
Remarks:													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Cargo Hook Load Lights 1-94-01-0810			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and MH-47E			
DESCRIPTION / JUSTIFICATION:			
<p>Type of Improvement - Improved Operational Capability. The Improved Cargo Hook Load Lights will provide crew members/load master with improved visibility during sling load operations. This system incorporates three incandescent lamps with adjustable brightness levels, located at the forward, center, and aft cargo hooks. A Night Vision Goggles (NVG) filter can fit over the lamps giving the crew sling load capability in NVG conditions.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	May 98		
First Production Hardware Delivery	Nov 99		
Field Retrofit Initiated	Jan 00		

INDIVIDUAL MODIFICATION																	February 1997			
Cargo Hook Load Lights 1-94-01-0810																				
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			60	0.7	60	0.8	60	0.9	60	0.9	86	1.3	120	2.0	82	1.3			468	7.0
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt --60 Kits									60	0.4									60	0.4
FY 1999 Eqpt -- 60 Kits									60	0.4									60	0.4
FY 2000 Eqpt -- 60 kits											60	0.3							60	0.3
FY 2001 Eqpt --86 kits													86	0.5					86	0.5
FY 2002 Eqpt --120 kits															120	0.7			120	0.7
FY 2003 Eqpt --82 kits																	82	0.6	82	0.6
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost									120	0.8	60	0.3	86	0.5	120	0.7	82	0.6	468	2.9
Total Procurement Cost										1.7		1.6		2.5		2.0		0.6		9.9
METHOD OF IMPLEMENTATION Contract Field Teams																	18 Months			
Contract Dates:																	FY 1999: Feb 99			
Delivery Date:																	FY 1999: Jul 00			





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Improved Rotor Head Shafts & Seals 1-95-01-0818	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK, MH-47E, and Trainers	
DESCRIPTION / JUSTIFICATION:		<p>Type of Improvement - Improved Operational Capability. The CH-47D field units have reported multiple instances of leaking rotorhead seals. This Engineering Change will eliminate rotorhead leakage problems by incorporating seals with improved materials and configuration in addition to incorporating speedy seals on the inboard and outboard sealing surfaces of the pitch shaft. This will cause the rotorheads to operate more efficiently and maintenance requirements will decrease.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div>PLANNED</div> <div>Dec-97</div> <div>Nov-98</div> <div>Jan-99</div>	<div>ACCOMPLISHED</div>
		<div>Production Contract Award</div> <div>First Production Hardware Delivery</div> <div>Field Retrofit Initiated</div>	



Installation Schedule: Improved Rotor Head Shafts & Seals 1-95-01-0818													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	Total
<b>Inputs</b>													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
<b>Outputs</b>													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
<b>Inputs</b>													
	1	2	3	4	1	2	3	4	1	2	3	4	Total
FY 2002													
FY 2003													
<b>Outputs</b>													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Remarks:</b>													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Improved Latch for Aft Pylon Doors 1-95-01-0814			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, CH-47E, and Trainers			
DESCRIPTION / JUSTIFICATION: Type of Improvement - Safety. Present design of the Aft Pylon Door Latches is inadequate due to vibrations which cause latches to open in flight. This improvement will incorporate design changes that will prevent these failures. Correction is required because continued degradation could cause the doors to come off in flight.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	Apr 97		
First Production Hardware Delivery	Mar 98		
Field Retrofit Initiated	May 98		

INDIVIDUAL MODIFICATION														February 1997						
MODIFICATION TITLE (Cont): Improved Latch for Aft Pylon Doors 1-95-01-0814																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits			471	1.1															471	1.1
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- 471 Kits																				
FY 1998 Eqpt -- Kits					120	0.1		351	0.3										471	0.4
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost					120	0.1		351	0.3										471	0.4
Total Procurement Cost				1.1		0.1			0.3											1.5
METHOD OF IMPLEMENTATION Contract Field Teams																				
Contract Dates:		FY 1997: Apr 97		ADMINISTRATIVE LEADTIME:		9		Months		PRODUCTION LEADTIME:		12		Months						
Delivery Date:		FY 1997: Mar 98		FY 1998:		FY 1998:				FY 1999:		FY 1999:								

METHOD OF IMPLEMENTATION Contract Field Teams ADMINISTRATIVE LEADTIME: 9 Months PRODUCTION LEADTIME: 12 Months  
 Contract Dates: FY 1997: Apr 97 FY 1998: FY 1999: FY 1999:  
 Delivery Date: FY 1997: Mar 98 FY 1998: FY 1999:

Installation Schedule: Improved Latch for Aft Pylon Doors 1-95-01-0814

	FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				Total	
	& Prior				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
Inputs																										
FY 1996 & Prior																										
FY 1997																										
FY 1998																										
FY 1999																										
Outputs																										
FY 1996 & Prior																										
FY 1997																										
FY 1998																										
FY 1999																										

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Install Handholds in Center Cargo Hook Hatch 1-95-01-0819			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E, and Trainers			
DESCRIPTION / JUSTIFICATION: Type of Improvement - Safety. This modification will install special formed stainless steel handholds with brackets in the center hook hatch to provide the loadmaster a secure method of anchoring while attaching and monitoring the hook load. Two handholds will be installed on the cargo hatch beams and are specially formed to be inserted in this area. These handholds will provide increased safety to the loadmaster through increased stability and improved balance during sling load operation.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	Mar 97		
First Production Hardware Delivery	Aug 98		
Field Retrofit Initiated	Jan 99		



**INDIVIDUAL MODIFICATION**

**MODIFICATION TITLE (Cont):** Install Handholds in Center Cargo Hook Hatch 1-95-01-0819

Date February 1997

FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
		471	1.9															471	1.9
<b>RDT&amp;E</b>																			
<b>PROCUREMENT</b>																			
Kit Quantity																			
Installation Kits																			
Installation Kits Nonrecurring																			
Equipment																			
Equipment Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
<b>Installation of Hardware</b>																			
FY 1996 & Prior Eqpt -- Kits																			
FY 1997 Eqpt -- 481 Kits																			
FY 1998 Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- kits																			
FY 2001 Eqpt -- kits																			
FY 2002 Eqpt -- kits																			
FY 2003 Eqpt -- kits																			
(FY(TC) Eqpt (xx kits)																			
Total Installation Cost																			
Total Procurement Cost																			
			1.9															471	0.5
																			2.4

**METHOD OF IMPLEMENTATION** Contract Field Teams      **ADMINISTRATIVE LEADTIME:** 12 Months      **PRODUCTION LEADTIME:** 18 Months

**Contract Dates:** FY 1997: Mar 97      FY 1998:      FY 1999:      FY 1999:      FY 1999:

**Delivery Date:** FY 1997: Aug 98      FY 1998:      FY 1999:      FY 1999:      FY 1999:

Installation Schedule: Install Handholds in Center Cargo Hook Hatch 1-95-01-0819

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	
<b>Inputs</b>														
FY 1996 & Prior														
FY 1997								150	160	161				471
FY 1998														
FY 1999														
<b>Outputs</b>														
FY 1996 & Prior														
FY 1997								150	160	161				471
FY 1998														
FY 1999														
<b>Inputs</b>														
FY 2000														
FY 2001														
FY 2004														
FY 2005														
<b>Outputs</b>														
FY 2000														
FY 2001														
FY 2004														
FY 2005														
<b>Remarks:</b>														

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Install Aft Pylon Fairing Vents 1-95-01-0820	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK, MH-47E, and Trainers	
DESCRIPTION / JUSTIFICATION:			
<p>Type of Improvement - Safety. The CH-47D Aft Pylon allows air intake to cool the combining transmission and surrounding components. This causes extreme air pressures to be created in the Aft Pylon resulting in a visible distortion of the Aft Pylon in flight and a deterioration in the clamshell doors and work platforms. This pressure has caused work platforms to open in flight and the clamshell doors to open and separate in flight. This engineering change proposal will improve safety to helicopter and crew by incorporating louvered air vents in the aft Pylon to alleviate the excess air pressure while the clamshell door and work platform stress/wear and alleviate these components flexing, opening, and separating in flight.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	Dec 97		
First Production Hardware Delivery	Nov 98		
Field Retrofit Initiated	Jan 99		



Installation Schedule: Install Aft Pylon Fairing Vents 1-95-01-0820														
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		Total
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	
<b>Inputs</b>														
FY 1996 & Prior														
FY 1997														
FY 1998														
FY 1999														
														471
<b>Outputs</b>														
FY 1996 & Prior														
FY 1997														
FY 1998														
FY 1999														
														471
<b>Inputs</b>														
FY 2000														
FY 2001														
FY 2002														
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<b>Inputs</b>														
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FY 2002														
FY 2003														
<b>Outputs</b>														
FY 2000														
FY 2001														
FY 2002														

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Improved Battery 1-96-01-0822	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK and Trainers	
DESCRIPTION / JUSTIFICATION:		<p>Type of Improvement - Improved Operational Capability. Incorporation of a New Lead Acid Battery will reduce the frequent battery failure. Currently the aircraft battery has a frequent failure rate. This has been a major maintenance concern for the users.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<p>PLANNED</p> <p>Dec 97</p> <p>May 99</p> <p>Jan 00</p>	<p>ACCOMPLISHED</p>
		<p>Production Contract Award</p> <p>First Production Hardware Delivery</p> <p>Field Retrofit Initiated</p>	



Installation Schedule: Improved Battery 1-96-01-0822													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		Date		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
446													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
446													
FY 2002													
1	2	3	4	1	2	3	4	1	2	3	4	1	2
FY 2003													
FY 2004													
FY 2005													
FY 2006													
FY 2007													
Total													
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INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Replace Upper Seal for Swashplate 1-96-01-0823			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers			
DESCRIPTION / JUSTIFICATION: Type of Improvement - Improved Operational Capability. This improvement will incorporate a new seal to reduce/eliminate dust particles from getting into the rotating swashplate components. Dust is causing erosion of the swashplate. Replacement of the seal will improve bearing life of the swashplate.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	Dec 97		
First Production Hardware Delivery	Feb 99		
Field Retrofit Initiated	May 99		

INDIVIDUAL MODIFICATION														February 1997							
MODIFICATION TITLE (Cont):														Date							
Replace Upper Seal for Swashplate 1-96-01-0823																					
FINANCIAL PLAN: (\$ in Millions)																					
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL				
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits			446	1.7													446	1.7			
Installation Kits Nonrecurring Equipment																					
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1994 & Prior Eqpt -- Kits																					
FY 1995 Eqpt -- Kits																					
FY 1996 Eqpt -- Kits																					
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt -- 446 kits					85	0.7	135	1.1	226	1.8							446	3.6			
FY 1999 Eqpt -- kits																					
FY 2000 Eqpt -- kits																					
FY 2001 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost					85	0.7	135	1.1	226	1.8							446	3.6			
Total Procurement Cost				1.7		0.7		1.1		1.8								5.3			
METHOD OF IMPLEMENTATION Field Contract Teams														9 Months		15 Months					
Contract Dates:														December 1997		FY 1999:					
Delivery Date:														February 1999		FY 1999:					



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Flex Lines for Aft Pylon Hydraulics 1-96-01-0824	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK and Trainers	
DESCRIPTION / JUSTIFICATION:		<p>Type of Improvement - Safety. This improvement will incorporate flexible lines not susceptible to rupture due to vibration. Currently, high vibration levels have caused numerous lines to break causing danger to the helicopter and crew. This engineering change will also reduce the labor time required to replace these lines.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Production Contract Award		Dec 97	
First Production Hardware Delivery		May 99	
Field Retrofit Initiated		Dec 00	

INDIVIDUAL MODIFICATION															February 1997		
MODIFICATION TITLE (Cont):															Date		
Flex Lines for Aft Pylon Hydraulics 1-96-01-0824																	
FINANCIAL PLAN: (\$ in Millions)																	
RDT&E	FY 1996																
	and Prior																
PROCUREMENT	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	TOTAL
Kit Quantity																	
Installation Kits																	
Installation Kits Nonrecurring																	
Equipment																	
Equipment Nonrecurring																	
Engineering Change Orders																	
Data																	
Training Equipment																	
Support Equipment																	
Other																	
Interim Contractor Support																	
Installation of Hardware																	
FY 1996 & Prior Eqpt -- Kits																	
FY 1997 Eqpt -- Kits																	
FY 1998 Eqpt -- 446 Kits																	
FY 1999 Eqpt -- Kits																	
FY 2000 Eqpt -- kits																	
FY 2001 Eqpt -- kits																	
FY 2002 Eqpt -- kits																	
FY 2003 Eqpt -- kits																	
(FY(TC) Eqpt (xx kits)																	
Total Installation Cost																	
Total Procurement Cost																	
METHOD OF IMPLEMENTATION Contract Field Teams																	
Contract Dates:																	
Delivery Date:																	
ADMINISTRATIVE LEADTIME:																	
FY 1997:																	
FY 1998:																	
FY 1999:																	
PRODUCTION LEADTIME:																	
FY 1997:																	
FY 1998:																	
FY 1999:																	



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Combining and Engine Transmission Input Pinion Bearings 1-96-01-0825			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers			
DESCRIPTION / JUSTIFICATION: Type of Improvement - Improved Operational Capability. This improvement will provide a new cage design and replace the bearings with an improved fracture and spalling resistant race and rollers. The combining transmission input pinion bearing and the engine transmission input pinion bearing have been susceptible to fractures and spalling.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	Dec 99		
First Production Hardware Delivery	May 01		
Field Retrofit Initiated	Dec 01		







INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Aft Pylon Airframe/Hydraulic/Electrical Disconnect 1-96-01-0826	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK and Trainers	
DESCRIPTION / JUSTIFICATION:		<p>Type of Improvement - Improved Operational Capability. This improvement will incorporate automatic disconnects which will automatically seal off disconnect locations and make disconnecting less labor intensive. Currently during transport of the CH-47D aircraft, the aft pylon is removed and numerous hydraulic and electrical connections are disconnected. These individual disconnect locations are then individually wrapped and closed to prevent contamination. Install disconnects will alleviate the labor intensive task and provide the protection necessary to prevent contamination.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div> <div>PLANNED</div> <div>Dec 98</div> <div>Feb 00</div> <div>May 00</div> </div>	<div> <div>ACCOMPLISHED</div> </div>





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Halon Replacement 1-95-01-0813	
MODELS OF SYSTEMS AFFECTED:		CH-47D CHINOOK and MH-47E	
DESCRIPTION / JUSTIFICATION:			
<p>Type of Improvement - Legislative Compliance. Use of Halon violates the Montreal Protocol and violates the Clean Air Act. This modification will retrofit hand held aircraft fire extinguishers and the onboard fire extinguishing system in the engine nacelle. The current halon extinguishers and systems deplete the ozone level and will be replaced with a new chemical agent.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Decision	Mar 97		
Production Contract Award	Dec 97		
First Production Hardware Delivery	Nov 98		
Field Retrofit Initiated	Jan 99		

INDIVIDUAL MODIFICATION														Date		February 1997							
MODIFICATION TITLE (Cont):														Halon Replacement 1-95-01-0813									
FINANCIAL PLAN: (\$ in Millions)																							
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL					
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
				394	5.3	74	0.9											468	6.2				
RD&E																							
PROCUREMENT																							
Kit Quantity																							
Installation Kits																							
Installation Kits Nonrecurring Equipment																							
Equipment Nonrecurring																							
Engineering Change Orders																							
Data																							
Training Equipment																							
Support Equipment																							
Other																							
Interim Contractor Support																							
Installation of Hardware																							
FY 1996 & Prior Eqpt -- Kits																							
FY 1997 Eqpt -- Kits																							
FY 1998 Eqpt -- 394 Kits																							
FY 1999 Eqpt -- 74 Kits																							
FY 2000 Eqpt -- kits																							
FY 2001 Eqpt -- kits																							
FY 2002 Eqpt -- kits																							
FY 2003 Eqpt -- kits																							
(FY(TC) Eqpt (xx kits)																							
Total Installation Cost																							
Total Procurement Cost																							
METHOD OF IMPLEMENTATION Contract Field Teams														ADMINISTRATIVE LEADTIME:		9 Months		PRODUCTION LEADTIME:		12 Months			
Contract Dates:														FY 1997:		FY 1998:		December 1997		FY 1999:		December 1998	
Delivery Date:														FY 1997:		FY 1998:		November 1998		FY 1999:		November 1999	



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Engine Upgrade to T55-GA-714A Configuration 1-96-01-0828			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK and Trainers			
DESCRIPTION / JUSTIFICATION: Type of Improvement - Improved Operational Capability. This modification will upgrade the T55-L-712 engine to T55-GA-714A configuration increasing power to allow the aircraft to carry its primary payloads under high altitude/temperatures. The CH-47D as configured does not meet its existing 1975 Required Operational Capability (ROC), i.e. 15,000 lbs. payload for 30 Nautical Miles radius at 4,000 feet/95 degrees Fahrenheit. The addition of numerous engineering changes to provide safety, the latest in operational technology, and improved communications has increased the empty weight of the aircraft. Upgrade of the T55-L-712 engine to T55-GA-714A configuration will provide the capability to meet the required operational capability.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Decision	Feb 97		
Production Contract Award	Mar 97		
First Production Hardware Delivery	May 98		
Field Retrofit Initiated	Jul 98		
First production hardware delivery is May 98. First year buy production lead time is 15 months; thereafter, leadtime is 12 months.			



MODIFICATION TITLE (Cont): Engine Upgrade to T55-GA-714A Configuration 1-96-01-0828

February 1997

Date

FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RD&E																			
PROCUREMENT																			
Kit Quantity																			
Installation Kits		26	3.3	22	2.8	48	6.4	32	4.4	92	12.8	74	10.5	64	9.3	84	12.5	442	62.0
Installation Kits Nonrecurring Equipment		55	40.4	53	40.3	110	84.5	70	54.9	208	166.7	164	134.3	168	140.6	322	277.6	1150	939.3
Equipment Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Engine Conversion				55	5.9	53	0.5	110	1.0	70	0.5	208	1.9	164	1.4	490	3.7	1150	9.0
Interim Contractor Support																			
Installation of Hardware																			
FY 1996 & Prior Eqpt -- Kits																			
FY 1997 Eqpt --26 Kits		26																26	0.4
FY 1998 Eqpt -- 22 Kits																		22	0.3
FY 1999 Eqpt -- 48 Kits						22	0.3	48	0.8	32	0.5							48	0.8
FY 2000 Eqpt -- 32 kits																		32	0.5
FY 2001 Eqpt -- 92 kits												92	1.5	74	1.3			92	1.5
FY 2002 Eqpt -- 74 kits																		74	1.3
FY 2003 Eqpt -- 64 kits																		64	1.1
(FY(TC) Eqpt -- 84 kits																		84	1.5
Total Installation Cost				26	0.4	22	0.3	48	0.8	32	0.5	92	1.5	74	1.3			442	7.4
Total Procurement Cost					49.4		97.6		73.4		188.6		172.9		172.5		349.6		1147.7

METHOD OF IMPLEMENTATION Contractor Plant Installed

Contract Dates: FY 1997: March 1997  
FY 1998: May 1998  
FY 1999: November 1998  
FY 2000: October 1999

ADMINISTRATIVE LEADTIME: 6 Months  
PRODUCTION LEADTIME: 12 Months

Delivery Date: FY 1997: May 1998  
FY 1998: May 1998  
FY 1999: October 1999



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Engine Barrier Filter 1-93-01-0807			
MODELS OF SYSTEMS AFFECTED: CH-47D CHINOOK, MH-47E, & Trainers			
DESCRIPTION / JUSTIFICATION: Type of Improvement - Improved Operational Capability. This funding provides an engine modification to separate sand and dust at the engine inlet to allow clean air to flow into the engine. For missions requiring extended operation at very low altitudes over sand and dust terrain, separation of sand and dust at engine inlet is a necessity to assure normal engine life for sustained operations. Procurement of this system is essential to assure operation in sandy regions.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Nonrecurring Engineering Contract Award	Sep 94	Apr 95	
Design Review	Jan 98		
Testing	Mar 98		
Production Contract	Jan 99		
First Hardware Delivery	Jun 00		
Field Installation Initiated	Jan 01		



Installation Schedule: Engine Barrier Filter 1-93-01-0807														
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	Total
<b>Inputs</b>														
FY 1996 & Prior														
FY 1997														
FY 1998														
FY 1999														
<b>Outputs</b>														
FY 1996 & Prior														
FY 1997														
FY 1998														
FY 1999														
<b>Inputs</b>														
FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2006		
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
25	25	30												
25	25	30												
30	40	40												
40	40	40												
25	25	31												
80														
110														
120														
81														
<b>Outputs</b>														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
<b>Remarks:</b>														

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT /Modification of Aircraft		P-1 ITEM NOMENCLATURE C-12 CARGO AIRPLANE MODS (AA0270)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0			
COST (in millions)	0.7	0.6	0.6	0.6	6.9	6.9	7.4	7.4			
<p><b>DESCRIPTION:</b> This modification updates and modernizes the C-12 aircraft communication, navigation and flight management equipment to current international standards in order to standardize the fleet, allow worldwide deployments, and upgrade capability for continued safe operations into the 21st Century.</p> <p><b>JUSTIFICATION:</b> FY 98 and FY 99 will provide funding for the C-12 avionics upgrade. The majority of the Army C-12 aircraft were purchased between 1971 and 1989 and were equipped with then current avionics and navigation equipment. Current Army modernization plans will retain the C-12 fleet in active service beyond 2017. Worldwide deployments using modern navigation and air traffic control facilities beyond the year 2000 are required. During deployments in support of Desert Storm/Desert Shield/Provide Comfort, only selected aircraft with non-standard modifications were capable of being deployed to and within the theater. Elimination of obsolete communication and navigation systems will enhance reliability and maintainability by employing current commercial systems thereby improving C-12 availability and cockpit standardization.</p>											



MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	py FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3a Set for modification</i>									
C-12 CARGO AIRPLANE MODS									
AA0270									
Avionics System Cockpit Upgrade - Group II	0.0	0.1	0.1	0.1	0.8	0.5	0.6	0.6	2.8
Color Weather Radar	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Totals	0.3	0.1	0.1	0.1	0.8	0.5	0.6	0.6	3.1



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Avionics System Cockpit Upgrade - Group II 1-96-01-0612			
MODELS OF SYSTEMS AFFECTED: C-12C, D, F, L and R			
DESCRIPTION / JUSTIFICATION: This effort will update and modernize C-12 communications, navigation, and flight direction equipment to current international standards to standardize the fleet, allow worldwide deployments and upgrade capability for continued safe operations into the 21st Century. As currently equipped, the aircraft are not suitable for worldwide deployment nor capable of using modern navigation and air traffic control facilities. The following equipment is included in this upgrade: Passenger Noise Abatement Systems I and II, Flight Management System Data Loaders and Cartridges, Army Engine Trend Monitor System ARINC 429, Satellite Communications (SATCOM) Upgrade, Flight Display System 255, Flight Management System 800, ARC 210 w/Satellite Communications, Traffic Collision Avoidance System II, and Engine Instruments. The quantities procured and installed will vary depending on the requirements for each individual aircraft.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Production Contract Award	PLANNED	ACCOMPLISHED	
	2Q97		
Production Delivery Starts	2Q97		
Kit Application Starts	2Q97		
Kit Application Completed	4Q04		



Installation Schedule: Avionics System Cockpit Upgrade - Group II 1-96-01-0612																		
FY 1996			FY 1997			FY 1998			FY 1999			FY 2000			February 1997			
& Prior			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																		
FY 1996 & Prior																		
FY 1997			60	60	6													
FY 1998			20			30	11											
FY 1999						3	3	3										
Total			126 61 9															
Outputs																		
FY 1996 & Prior																		
FY 1997			60	60	6													
FY 1998			20			30	11											
FY 1999						3	3	3										
Total			126 61 9															
Inputs																		
FY 2000			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001																		
FY 2002																		
FY 2003																		
Total			FY 2000 FY 2001 FY 2002 FY 2003															
			FY 2005															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2004 FY 2005															
			FY 2006															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2006 FY 2007 FY 2008 FY 2009															
			FY 2010															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2011 FY 2012 FY 2013 FY 2014															
			FY 2015															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2016 FY 2017 FY 2018 FY 2019															
			FY 2020															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2021 FY 2022 FY 2023 FY 2024															
			FY 2025															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2026 FY 2027 FY 2028 FY 2029															
			FY 2030															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2031 FY 2032 FY 2033 FY 2034															
			FY 2035															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2036 FY 2037 FY 2038 FY 2039															
			FY 2040															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2041 FY 2042 FY 2043 FY 2044															
			FY 2045															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2046 FY 2047 FY 2048 FY 2049															
			FY 2050															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2051 FY 2052 FY 2053 FY 2054															
			FY 2055															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2056 FY 2057 FY 2058 FY 2059															
			FY 2060															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2061 FY 2062 FY 2063 FY 2064															
			FY 2065															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2066 FY 2067 FY 2068 FY 2069															
			FY 2070															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2071 FY 2072 FY 2073 FY 2074															
			FY 2075															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2076 FY 2077 FY 2078 FY 2079															
			FY 2080															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2081 FY 2082 FY 2083 FY 2084															
			FY 2085															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2086 FY 2087 FY 2088 FY 2089															
			FY 2090															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2091 FY 2092 FY 2093 FY 2094															
			FY 2095															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2096 FY 2097 FY 2098 FY 2099															
			FY 2100															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2101 FY 2102 FY 2103 FY 2104															
			FY 2105															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2106 FY 2107 FY 2108 FY 2109															
			FY 2110															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2111 FY 2112 FY 2113 FY 2114															
			FY 2115															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2116 FY 2117 FY 2118 FY 2119															
			FY 2120															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2121 FY 2122 FY 2123 FY 2124															
			FY 2125															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2126 FY 2127 FY 2128 FY 2129															
			FY 2130															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2131 FY 2132 FY 2133 FY 2134															
			FY 2135															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2136 FY 2137 FY 2138 FY 2139															
			FY 2140															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2141 FY 2142 FY 2143 FY 2144															
			FY 2145															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2146 FY 2147 FY 2148 FY 2149															
			FY 2150															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2151 FY 2152 FY 2153 FY 2154															
			FY 2155															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2156 FY 2157 FY 2158 FY 2159															
			FY 2160															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2161 FY 2162 FY 2163 FY 2164															
			FY 2165															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2166 FY 2167 FY 2168 FY 2169															
			FY 2170															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2171 FY 2172 FY 2173 FY 2174															
			FY 2175															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2176 FY 2177 FY 2178 FY 2179															
			FY 2180															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2181 FY 2182 FY 2183 FY 2184															
			FY 2185															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2186 FY 2187 FY 2188 FY 2189															
			FY 2190															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003								20	20	21								
Total			FY 2191 FY 2192 FY 2193 FY 2194															
			FY 2195															
FY 2000			90	105	88													
FY 2001			20			40	23											
FY 2002						20	30	20										
FY 2003																		

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT										
Modification of Aircraft										
P-1 ITEM NOMENCLATURE										
OH-58 MODS (AA0400)										
QUANTITY		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
		0	0	0	0	0	0	0	0	
COST (in millions)		2.4	1.1	0.7	0.1	0.5	0.5	0.5	0.5	
DESCRIPTION:										
<p>a. The OH-58A/C model helicopters are low silhouette, single rotor helicopters powered by a single gas turbine engine (T63-A-700/720) used for observation, scout, and command and control. This is a single pilot aircraft with provisions for a second pilot and the capability to carry two passengers or cargo in the rear cargo area. The OH-58C is an upgraded OH-58A model with a more powerful engine, transmission, navigational upgrade, and instrumentation. The OH-58A/C programs consist of incorporating the SINGARS-VHF-FM radio, Combat Lighting for Night Vision, an External 3 Micron Engine Oil Filter, and Global Positioning Systems. Funding is also required for safety modifications, in addition to operational improvement modifications required to meet mission requirements throughout the year 2015.</p> <p>b. There are no plans to procure additional OH-58A/C's for the Army. Although the OH-58A/C fleet is being gradually downsized, approximately 363 aircraft will remain in the inventory until 2015. This includes approximately 71 "float" aircraft.</p>										
JUSTIFICATION: FY 98 and FY99 funding will be used to install modification kits procured in prior years.										



MODIFICATION INSTALLATION SUMMARY									
Date									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
* No P3a Set for modification									
OH-58 MODS	5.3	0.1	0.4	0.0	0.0	0.0	0.0	0.0	5.8
AA0400	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	1.1
SINGARS-V	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combat Lighting	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Safety and Sustainment	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Global Positioning System (GPS)									
Transmission External Oil Filter									
Totals	6.4	0.9	0.6	0.0	0.0	0.0	0.0	0.0	7.9

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: SINGGARS-V 1-85-01-0286			
MODELS OF SYSTEMS AFFECTED: OH-58C			
DESCRIPTION / JUSTIFICATION: This system provides VHF-FM radio communications of voice and data in secure or plain text. It replaces the AN/ARC-114 radio which is not secure and does not have frequency hopping capability.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:  All kits have been delivered.			
PLANNED		ACCOMPLISHED	

INDIVIDUAL MODIFICATION																		Date		February 1997							
MODIFICATION TITLE (Cont):																		SINGGARS-V 1-85-01-0286									
FINANCIAL PLAN: (\$ in Millions)																											
RD&E PROCUREMENT Kit Quantity Installation Kits Installation Kits Nonrecurring Equipment Equipment Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other Interim Contractor Support	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL								
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$							
	617	11.0																	617	11.0							
	457	5.3	10	0.1	30	0.4													497	5.8							
Installation of Hardware FY 1996 & Prior Eqpt --497 FY 1997 Eqpt -- Kits FY 1998 Eqpt -- Kits FY 1999 Eqpt -- Kits FY 2000 Eqpt -- Kits FY 2001 Eqpt -- Kits FY 2002 Eqpt -- Kits FY 2003 Eqpt -- Kits (FY(TC) Eqpt (xx Kits) Total Installation Cost Total Procurement Cost	457	5.3	10	0.1	30	0.4													497	5.8							
		16.3		0.1		0.4														16.8							
METHOD OF IMPLEMENTATION Contractor Field Teams																		ADMINISTRATIVE LEADTIME:				PRODUCTION LEADTIME:					
Contract Dates:																		FY 1998:				FY 1999:					
Delivery Date:																		FY 1998:				FY 1999:					



Installation Schedule: SINGGARS-V 1-85-01-0286

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total
	FY 1996	& Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		
<b>Inputs</b>																					
FY 1996 & Prior	457	3	3	3	1	8	8	8	6												497
FY 1997																					
FY 1998																					
FY 1999																					
<b>Outputs</b>																					
FY 1996 & Prior	457	3	3	3	1	8	8	8	6												497
FY 1997																					
FY 1998																					
FY 1999																					
<b>Inputs</b>																					
FY 2000																					
FY 2001																					
FY 2002																					
FY 2003																					
<b>Outputs</b>																					
FY 2000																					
FY 2001																					
FY 2002																					
FY 2003																					
<b>Inputs</b>																					
FY 2000	1	2	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001																					
FY 2002																					
FY 2003																					
<b>Outputs</b>																					
FY 2000																					
FY 2001																					
FY 2002																					
FY 2003																					

Remarks: Installation of "A" kits is dependent upon "B" kits from PM SINGGARS. Difference between procurement quantity and installation quantity is initial spares.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Combat Lighting 1-90-01-0289	
MODELS OF SYSTEMS AFFECTED:		OH-58A/C	
DESCRIPTION / JUSTIFICATION:			
This Materiel Change will provide MIL-L-85762 acceptable lighting compatible with the use of AN/AVS-6 night vision goggles.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
All kits have been delivered.			

INDIVIDUAL MODIFICATION														February 1997																																																																																																																																																																																																																																																																																																																																																																																																																																					
MODIFICATION TITLE (Cont): Combat Lighting 1-90-01-0289														Date																																																																																																																																																																																																																																																																																																																																																																																																																																					
FINANCIAL PLAN: (\$ in Millions)																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Installation Schedule: Combat Lighting 1-90-01-0289														
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	Total

INDIVIDUAL MODIFICATION		Date	February 1997								
MODIFICATION TITLE:		Transmission External Oil Filter 1-90-01-0292									
MODELS OF SYSTEMS AFFECTED:		OH-58A/C									
DESCRIPTION / JUSTIFICATION:		<p>This modification provides a 3 micron filter to reduce transmission maintenance cost and reduces risks of contaminants adversely affecting internal components. Installation will be stopped at 363 aircraft due to ARI retirements.</p>									
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>Preliminary Design Review</td> <td>Jun-95</td> </tr> <tr> <td>Contractor Test and Evaluation</td> <td>Jul-95</td> </tr> <tr> <td>Date of First Delivery</td> <td>Feb-96</td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	Preliminary Design Review	Jun-95	Contractor Test and Evaluation	Jul-95	Date of First Delivery	Feb-96	
PLANNED	ACCOMPLISHED										
Preliminary Design Review	Jun-95										
Contractor Test and Evaluation	Jul-95										
Date of First Delivery	Feb-96										

INDIVIDUAL MODIFICATION																		Date		February 1997							
MODIFICATION TITLE (Cont):																		Transmission External Oil Filter 1-90-01-0292									
FINANCIAL PLAN: (\$ in Millions)																											
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL								
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$							
RDT&E																											
PROCUREMENT																											
Kit Quantity																											
Installation Kits	375	0.4																	375	0.4							
Installation Kits Nonrecurring Equipment																											
Equipment Nonrecurring																											
Engineering Change Orders																											
Data																											
Training Equipment																											
Support Equipment																											
Other																											
Interim Contractor Support																											
Installation of Hardware																											
FY 1996 & Prior Eqpt -- 363	187	0.3	176	0.3															363	0.6							
FY 1997 Eqpt -- Kits																											
FY 1998 Eqpt -- Kits																											
FY 1999 Eqpt -- Kits																											
FY 2000 Eqpt -- Kits																											
FY 2001 Eqpt -- Kits																											
FY 2002 Eqpt -- Kits																											
FY 2003 Eqpt -- Kits																											
(FY(TC) Eqpt (xx Kits)																											
Total Installation Cost	187	0.3	176	0.3															363	0.6							
Total Procurement Cost		0.7		0.3																1.0							
METHOD OF IMPLEMENTATION OLR Contractors																		ADMINISTRATIVE LEADTIME:		8		Months		9		Months	
Contract Dates:																		FY 1998:		FY 1999:		FY 1999:		FY 1999:		FY 1999:	
Delivery Date:																		FY 1998:		FY 1998:		FY 1998:		FY 1998:		FY 1998:	

Installation Schedule: Transmission External Oil Filter 1-90-01-0292

	FY 1996 & Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Total
Inputs							
FY 1996 & Prior	187	50	50	50	26		
FY 1997							
FY 1998							
FY 1999							
Outputs							
FY 1996 & Prior	187	50	50	50	26		
FY 1997							
FY 1998							
FY 1999							

Remarks: Difference between procurement quantity and installation quantity is initial spares.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Global Positioning System (GPS) 1-96-01-0210	
MODELS OF SYSTEMS AFFECTED:		OH-58 A/C	
DESCRIPTION / JUSTIFICATION:		Modification to install standard GPS provisions will improve navigational capabilities in all aircraft.	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div> <div>PLANNED</div> <div>Mar-96</div> <div>Jul-96</div> </div>	<div> <div>ACCOMPLISHED</div> <div>Mar-96</div> <div>Aug-96</div> </div>
Contract Award			
Date of First Delivery			



INDIVIDUAL MODIFICATION														February 1997	
MODIFICATION TITLE (Cont): Global Positioning System (GPS) 1-96-01-0210															
FINANCIAL PLAN: (\$ in Millions)															
FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL						
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	\$	\$	Qty	\$			
RDT&E															
PROCUREMENT															
Kit Quantity															
Installation Kits															
Installation Kits Nonrecurring															
Equipment															
Equipment Nonrecurring															
Engineering Change Orders															
Data															
Training Equipment															
Support Equipment															
Other															
Interim Contractor Support															
Installation of Hardware															
FY 1996 & Prior Eqpt -- 291															
FY 1997 Eqpt -- Kits															
FY 1998 Eqpt -- Kits															
FY 1999 Eqpt -- Kits															
FY 2000 Eqpt -- Kits															
FY 2001 Eqpt -- Kits															
FY 2002 Eqpt -- Kits															
FY 2003 Eqpt -- Kits															
(FY(TC) Eqpt (xx Kits)															
Total Installation Cost	212	0.3	79	0.1							291	0.4			
Total Procurement Cost		1.1		0.1								1.2			
METHOD OF IMPLEMENTATION Contractor Teams															
Contract Dates: FY 1997: 5 Months PRODUCTION LEADTIME: 5 Months															
Delivery Date: FY 1997: FY 1998: FY 1999:															

Installation Schedule: Global Positioning System (GPS) 1-96-01-0210

FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>Inputs</b>																					
FY 1996 & Prior		212	79																		291
FY 1997																					
FY 1998																					
FY 1999																					
<b>Outputs</b>																					
FY 1996 & Prior		212	79																		291
FY 1997																					
FY 1998																					
FY 1999																					
<b>Inputs</b>																					
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001																					
FY 2002																					
FY 2003																					
<b>Outputs</b>																					
FY 2000																					
FY 2001																					
FY 2002																					
FY 2003																					
<b>Outputs</b>																					
FY 2000																					
FY 2001																					
FY 2002																					
FY 2003																					

Remarks: GPS PM is responsible for 'B' kit procurement and fielding. Difference between procurement quantity and installation quantity is initial spares.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Safety and Sustainment 1-91-02-0296	
MODELS OF SYSTEMS AFFECTED:		OH-58A/C	
DESCRIPTION / JUSTIFICATION:		Funds are required to procure modifications required to fix potential safety issues and sustain the aircraft's current performance.	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED

INDIVIDUAL MODIFICATION														February 1997					
MODIFICATION TITLE (Cont): Safety and Sustainment 1-91-02-0296																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																			
PROCUREMENT																			
Kit Quantity																			
Installation Kits																			
Installation Kits Nonrecurring																			
Equipment																			
Equipment Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
Installation of Hardware																			
FY 1996 & Prior Eqpt -- Kits																			
FY 1997 Eqpt -- Kits																			
FY 1998 Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- kits																			
FY 2001 Eqpt -- kits																			
FY 2002 Eqpt -- kits																			
FY 2003 Eqpt -- kits																			
(FY(TC) Eqpt (xx kits)																			
Total Installation Cost																			
Total Procurement Cost	2.0		0.2		0.1		0.1		0.5		0.5		0.5		0.5				4.4

METHOD OF IMPLEMENTATION		ADMINISTRATIVE LEADTIME:		PRODUCTION LEADTIME:	
Contract Dates:	FY 1997:	FY 1998:	FY 1998:	FY 1999:	FY 1999:
Delivery Date:	FY 1997:	FY 1998:	FY 1998:	FY 1999:	FY 1999:

Installation Schedule: Safety and Sustainment 1-91-02-0296													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2005	
1	2	3	4	1	2	3	4	1	2	3	4	1	2
4	3	2	1	4	3	2	1	4	3	2	1	4	3
Total													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT /Modification of Aircraft		C-20 AIRCRAFT MODS (AA0560)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0			
COST (in millions)	2.2	0.9	0.9	0.8	0.0	0.0	0.0	0.0			

**DESCRIPTION:**

a. The C-20 is a long-range, pressurized, passenger/cargo type jet aircraft equipped with twin turbofan engines. The aircraft is capable of operating under day and night Instrument Flight Rules (IFR) conditions, in high density air traffic zones, and in icing weather conditions.

b. The Army C-20 and C-21 jet fleet consists of seven aircraft as follows: Two C-20E models procured with FY 87 funds and one C-20F model procured with FY 91 funds. One VC-11 aircraft was transferred to the Army from the Corps of Engineers in FY 90. This aircraft completed an upgrade in FY 93 and has been redesignated a C-20J. One C-21 (Lear jet 35) was seized/confiscated in the FY 81 timeframe. It was refurbished in FY 89. Two C-21 aircraft that were excessed by the Air Force were added to the fleet in FY 96.

**JUSTIFICATION:** FY 98 funds will be used for the following modifications: Digital Flight Phone for the C-20E, F, and J aircraft and an Enhanced Ground Proximity Warning System for the C-20E and F aircraft. FY 99 funds will be used to install the Satellite Communications/Future Air Navigation System into the C-20E and F aircraft.



MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
* No P3a Set for modification									
C-20 AIRCRAFT MODS									
AA0560									
Enhanced Ground Proximity Warning System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Satellite Communications/Future Air Navigation System	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Digital Flight Phone	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Global Positioning System (GPS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flight Data Recorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cockpit Voice Recorder	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Traffic Collision Avoidance System	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Totals	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Most installations in FY 94-FY 01 are less than \$.050 each year.									



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Enhanced Ground Proximity Warning System 1-94-01-0503			
MODELS OF SYSTEMS AFFECTED: C-20 E and F			
DESCRIPTION / JUSTIFICATION:			
<p>The Enhanced Ground Proximity Warning System utilizes aircraft position information provided by on board navigation equipment combined with a world-wide terrain database to provide aircrew with real-time video/CRT display of approaching terrain. This technology will greatly enhance situational awareness with regard to surrounding terrain during air operations in airport terminal areas and when flying near the surface in unfamiliar areas. Installation in FY 98 will be \$.046K.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	3Q98		
Production Delivery Starts	3Q98		
Kit Application Starts	3Q98		
Kit Application Complete	3Q98		



Installation Schedule: Enhanced Ground Proximity Warning System 1-94-01-0503															
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997			
& Prior		1	2	3	4	1	2	3	4	1	2	3	4		
Inputs															
FY 1996 & Prior															
FY 1997															
FY 1998															
FY 1999															
3															
Outputs															
FY 1996 & Prior															
FY 1997															
FY 1998															
FY 1999															
3															
FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
Outputs															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
Remarks:															

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Satellite Communications/Future Air Navigation System 1-94-01-0506			
MODELS OF SYSTEMS AFFECTED: C-20E, F and J			
DESCRIPTION / JUSTIFICATION: <p>Future Air Navigation Systems (FANS) is part of the satellite technology established by the International Civil Aviation Organization (ICAO). It is navigation equipment for over ocean and large areas of continental land mass transmitted via satellite communications (SATCOM). Automatic Dependent Surveillance, which will be used to accurately determine and verify aircraft position, will also use both Satellite Navigation and SATCOM. The present C-20 SATCOM system does not address the requirements of FANS, however, it could be modified to do so, once the ICAO standard is in place.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Production Contract Award	1Q99		
Production Delivery Starts	1Q99		
Kit Application Starts	1Q99		
Kit Application Complete	2Q99		

INDIVIDUAL MODIFICATION															Date		February 1997				
MODIFICATION TITLE (Cont):															Satellite Communications/Future Air Navigation System 1-94-01-0506						
FINANCIAL PLAN: (\$ in Millions)																					
RDT&E	FY 1996																				
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
Installation Kits Nonrecurring																					
Equipment																					
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- 4 Kits																					
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost																					
Total Procurement Cost																					
METHOD OF IMPLEMENTATION Life Cycle Contract Spt.		ADMINISTRATIVE LEADTIME:		2		Months		PRODUCTION LEADTIME:		1		Month									
Contract Dates:		FY 1997:		FY 1998:		FY 1999:		FY 1998:		FY 1999:		FY 1998:		FY 1999:		FY 1998:		FY 1999:		FY 1998:	
Delivery Date:		FY 1997:		FY 1998:		FY 1999:		FY 1998:		FY 1999:		FY 1998:		FY 1999:		FY 1998:		FY 1999:		FY 1998:	

Installation Schedule: Satellite Communications/Future Air Navigation System 1-94-01-0506													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Total													
Remarks:													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Digital Flight Phone 1-94-01-0505			
MODELS OF SYSTEMS AFFECTED: C-21 & C-20E, F & J			
DESCRIPTION / JUSTIFICATION: This upgrade to the current analog flight phone would allow for increased clarity, voice security, and seamless transition of calls from one cell zone to the next cell zone. Present system drops calls as it loses reception of ground stations. At the speeds these aircraft fly, this is a common occurrence. Digital flight phone, fax and data communications are possible, with service rates much lower than satellite communication rates. Addition of digital phone would allow passengers inexpensive and reliable phone rates over the Continental US, augmenting the INMARSAT satellite communication, which is essential outside of CONUS. The C-21 installation in FY 96 was \$.008K and the C-20E, F, & J installation in FY 98 will be \$.046K.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Production Contract Award	PLANNED 4Q96	ACCOMPLISHED 4Q96	
Production Delivery Starts	4Q96	4Q96	
Kit Application Starts	4Q96	4Q96	
Kit Application Complete	4Q98		

INDIVIDUAL MODIFICATION															February 1997						
MODIFICATION TITLE (Cont): Digital Flight Phone 1-94-01-0505																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits	3	0.3																		7	0.7
Installation Kits Nonrecurring Equipment					4	0.4															
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt --3 Kits	3																			3	
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt --4 Kits					4															4	
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost	3				4															7	
Total Procurement Cost		0.3				0.4															0.7

METHOD OF IMPLEMENTATION Life Cycle Contract Spt.				ADMINISTRATIVE LEADTIME:		9 Months		PRODUCTION LEADTIME:		1 Month	
Contract Dates:				FY 1997:		Jul 98		FY 1999:		FY 1999:	
Delivery Date:				FY 1997:		Jul 98		FY 1998:		FY 1999:	





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Traffic Collision Avoidance System 1-94-01-0503			
MODELS OF SYSTEMS AFFECTED: C-20E, F			
DESCRIPTION / JUSTIFICATION: This modification will install the Traffic Collision Avoidance System into the C-20E, F aircraft. This capability is mandatory for all major commercial air carriers and almost standard in most Gulfstream size corporate jets. The Traffic Collision Avoidance System can significantly reduce the possibility of a mid-air collision.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
	2Q97		
Production Contract Award	2Q97		
Production Delivery Starts	2Q97		
Kit Application Starts	2Q97		
Kit Application Complete	2Q97		

INDIVIDUAL MODIFICATION														
MODIFICATION TITLE (Cont): Traffic Collision Avoidance System 1-94-01-0503														
FINANCIAL PLAN: (\$ in Millions)														
FY 1996 and Prior		FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC		TOTAL			
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E														
PROCUREMENT														
		3	0.8									3	0.8	
Kit Quantity														
Installation Kits														
Installation Kits Nonrecurring														
Equipment														
Equipment Nonrecurring														
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														
Other														
Interim Contractor Support														
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits														
		3	0.1									3	0.1	
FY 1997 Eqpt -- 3 Kits														
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- Kits														
FY 2001 Eqpt -- Kits														
FY 2002 Eqpt -- Kits														
FY 2003 Eqpt -- Kits														
(FY(TC) Eqpt (xx kits)														
		3	0.1									3	0.1	
Total Installation Cost														
			0.9										0.9	
Total Procurement Cost														
METHOD OF IMPLEMENTATION Life Cycle Contract Spt														
Contract Dates: FY 1997: Feb 97 FY 1998: Feb 97														
Delivery Date: FY 1997: Feb 97 FY 1998: Feb 97														
ADMINISTRATIVE LEADTIME: 5 Months														
PRODUCTION LEADTIME: 1 Month														

Installation Schedule: Traffic Collision Avoidance System 1-94-01-0503															
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	1	2
Date															
February 1997															
FY 2001															
		1	2	3	4	1	2	3	4	1	2	3	4	1	2
		Total													
Inputs															
FY 1996 & Prior															
FY 1997		3													
FY 1998															
FY 1999															
Outputs															
FY 1996 & Prior															
FY 1997		3													
FY 1998															
FY 1999															

BUDGET ITEM JUSTIFICATION SHEET										DATE	
APPROPRIATION / BUDGET ACTIVITY										February 1997	
AIRCRAFT PROCUREMENT / Modification of Aircraft											
P-1 ITEM NOMENCLATURE											
LONGBOW (AA6670)											
QUANTITY	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
COST (in millions)		425.6	383.1	474.8	545.0	631.4	648.7	610.4	574.8	2115.8	6409.6
Initial Spares (in millions)			10.1	13.5	22.5	12.7	13.3	14.6	18.0	58.5	163.2
Total (in millions)		425.6	393.2	488.3	567.5	644.1	662.0	625.0	592.8	2174.3	6572.8
Unit Cost (in millions) *											

**DESCRIPTION:**

The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Two hundred twenty seven AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscuration. The weapon system will effectively engage and destroy advanced threat armor on the AirLand Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

**JUSTIFICATION:**

FY 98 funds buy 44 aircraft/21 FCRs and FY 99 funds buy 66 aircraft/40 FCRs, including associated support equipment, tooling, GFE, and training devices. Funding contains digitization requirements. The 18 October 95 Acquisition Decision Memorandum authorized Longbow Apache to proceed into production and award of single year contract not to exceed quantity of 18 aircraft in FY96. Congress increased funding in FY96 by \$76.2 million so the contract may be definitized as a multi-year contract in August 96. A multi-year contract was signed on 16 August 96, increasing the FY96 quantity to 24. Airframe quantities and funding reflect a multi-year (MY) scenario. FCR quantities & funding reflect proposed MY procurements for FY 98-03. Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines.

Initial spares includes FCR components

\*Unit costs for airframe and FCRs are on detailed P-40Rs.



MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	py FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
Longbow									
AA6670									
Longbow Apache Mods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apache Longbow FCR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

BUDGET ITEM JUSTIFICATION SHEET												DATE
APPROPRIATION / BUDGET ACTIVITY												February 1997
AIRCRAFT PROCUREMENT / Modification of Aircraft												
P-1 ITEM NOMENCLATURE												
LONGBOW APACHE MODS (AA8607)												
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program	
QUANTITY		24	24	44	66	74	72	72	72	310	758	
COST (in millions)		340.1	293.5	377.8	446.8	515.4	535.2	527.9	547.9	2076.5	5661.1	
Initial Spares (in millions)			10.1	13.5	22.5	12.7	13.3	14.6	18.0	58.5	163.2	
Total (in millions)		340.1	303.6	391.3	469.3	528.1	548.5	542.5	565.9	2135.0	5824.3	
Unit Cost (in millions) *		17.3	12.8	9.1	7.3	7.5	7.9	7.8	8.1	NA	8.1	

**DESCRIPTION:**

The Longbow Weapon System (AH-64D) consists of a modified AH-64 airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Two hundred twenty seven AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscuration. The weapon system will effectively engage and destroy advanced threat armor on the AirLand Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

**JUSTIFICATION:**

FY 98 funds buy 44 aircraft and FY 99 funds buy 66 aircraft, including associated support equipment, tooling, GFE, and training. Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines.

Initial spares includes FCR components

\* Unit costs are annual procurement unit costs including advanced procurement.



INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE: Longbow Apache Mods TBD1		February 1997
MODELS OF SYSTEMS AFFECTED: AH-64 Attack Helicopter (Apache)		
DESCRIPTION / JUSTIFICATION: The Longbow Weapon System (AH-64D) consists of a modified AH-64A airframe, a Fire Control Radar (FCR) mission kit and a Longbow Hellfire missile. The AH-64 aircraft will be modified with those changes necessary to effectively and efficiently integrate the Fire Control Radar. These changes consist of increased electrical power, expanded forward avionics bays, increased cooling, upgraded processors, MANPRINT crew station and 701C engines. These upgrades will significantly enhance warfighting capability and battlefield survivability by providing for advanced digitized avionics and the employment of true fire and forget engagement capability.		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
	<div> <div>PLANNED</div> <div>           Aug-85 Jul-89 Dec-90 Jul-92 Oct-94 Oct-94 Jun-95 Jan-95 Oct-95 Dec-95 Jul-96 Mar-97 Jul-98 Oct-98         </div> </div>	<div> <div>ACCOMPLISHED</div> <div>           Aug-85 Jul-89 Dec-90 Jul-92 Oct-94 Dec-94 Jun-95 Mar-95 Oct-95 Dec-95 Aug-96         </div> </div>





Simulator and Training Device Justification										Date
Appropriation / P-1 Line Item		Weapon System (if applicable)				Equipment Nomenclature				February 1997
AIRCRAFT PROCUREMENT/LONGBOW APACHE MODS		Apache Longbow				Apache Longbow				PE
Fin Plan	96 & Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Total	
Quantity (Each)		2	54	72	152	149	139	133	701	
Proc (\$000)	5100	25500	81662	62076	87002	94913	74411	50948	481612	
RDT&E (\$000)	31387	10644							42031	
O&S (\$000)										

**TRAINING SYSTEM DESCRIPTION:**

The Longbow Training Device Suite (TDS) includes the following:  
 Longbow Crew Trainer (LCT), FY 97 start year (16 total)  
 Longbow Collective Training System (LCTS), FY 98 start year (12 total)  
 Tactical Engagement Simulation System (TESS) "A" and "B" Kit, FY 98 start year (1/aircraft)  
 Multiplex Avionics, Visionics, Weapons and Electrical Systems Trainer (MAVWEST), FY 97 start year (10 total)  
 Airframe, Engine, and Drivetrain Systems Trainer (AEDST), FY 98 start year (12 total)

The cornerstone of the TDS is the LCT which is a dual-seat, pilot and co-pilot gunner (CPG) sustainment training device. It will also be used for individual qualification training at the USA Aviation Center (USAAVNC). The basis of issue is one to two devices at selected MACOM locations (based upon Longbow Apache unit density), one at the Combat Aviation Training Brigade (CATB), three at USAAVNC, and one at the Western Area Aviation Training Site (WAATS). Development and production of the LCT will precede development of the maintainer devices and will establish the technical baseline for the LCTS and MAVWEST. Issued similarly to the LCT, the LCTS will provide a transportable collective and combined arms training capability to the field. The LCT and the LCTS will be networkable through Distributed Interactive Simulation (DIS) protocols and interfaces and will be interoperable with the Combined Arms Tactical Trainer (CATT) systems.

Each Longbow Apache aircraft will have an embedded TESS "A" Kit to provide cockpit interface with a strap-on "B" Kit. The "B" Kit will simulate all on-board weapons for real-time casualty assessment for force-on-force collective training at the Combat Training Centers and at home stations.

The MAVWEST and AEDST are maintainer training devices for the US Aviation Logistics School (USAALS).

**Note:** RDTE includes LCT prototype development, engineering development simulation upgrade (EDS) TESS (project DC87), and Longbow engineering development/2d Generation Forward Looking Infrared capability (2d Gen FLIR).



# Simulator and Training Device Justification (Page 3)

Simulator and Training Device Justification (Page 3)										DATE		February 1997	
Training Device By Type		Weapon System (if applicable)											
Longbow Crew Trainer (LCT)		Longbow Apache											
Description / Justification													
The LCT is a individual/crew sustainment training device for the pilot and CPG. TRADOC will also use the LCT for qualification training. It will be the technical baseline for the LCTS and MAVWEST. The LCT will be networkable, local and wide area, and incorporates DIS protocols and interfaces for CATT interoperability.													
Financial Plan		Prior Years		FY 1997		FY 1998		FY 1999		Cost To Complete		Total Cost	
		Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
		Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000
HARDWARE COSTS													
Device (hardware)		1		1	11644	2	21272	3	29955	10	95780	16	158651
ECOs													5100
Nonrecurring			5100										
GFE													
Other (Specify)													
Technology Insertion													
SubTotal Hardware Costs			5100	1	11644	2	21272	3	29955	10	95780	16	163751
SUPPORT COSTS													
Special SE													
Integrated Logistics Support											63583		63583
Other (Specify)													
SubTotal Support Costs											63583.0		63583
Software/Courseware													
TOTAL COSTS			5100		11644		21272		29955		159363		227334

Simulator and Training Device Justification (Page 3)										DATE		February 1997				
Training Device By Type										Weapon System (if applicable)						
Longbow Collective Training System (LCTS)										Longbow Apache						
Description / Justification The LCTS is a transportable collective training device which will provide team, unit, force-on-force, and combined arms training on a simulated battlefield to field units. It will also be networkable (local and wide area) and incorporates Distributive Interactive Simulation (DIS) protocols and interfaces for Combined Arms Tactical Trainer (CATT) Internetworkability.																
Financial Plan	Prior Years			FY 1997			FY 1998			FY 1999			Cost To Complete		Total Cost	
	Qty	Cost		Qty	Cost		Qty	Cost		Qty	Cost		Cost	Qty	Cost	
	Each	\$000		Each	\$000		Each	\$000		Each	\$000		\$000	Each	\$000	
<b>HARDWARE COSTS</b>																
Device (hardware)																
ECOs																
Nonrecurring																
GFE																
Other (Specify)																
				2	28304		1	14400		9	111053			12	153757	
<b>SubTotal Hardware Costs</b>																
<b>SUPPORT COSTS</b>																
Special SE																
Integrated Logistics Support																
Other (Specify)																
				2	28304		1	14400		9	111053			12	153757	
<b>SubTotal Support Costs</b>																
Software/Courseware																
<b>TOTAL COSTS</b>																
					28304			14400			111053				153757	

### Simulator and Training Device Justification (Page 3)

DATE \_\_\_\_\_

February 1997

### Training Device By Type

Weapon System (if applicable)

## Apache Longbow

**Multiplex Avionic, Visionics, Weapons, and Electrical Systems Trainer (MAVWEST)**

Description / Justification

The MAVWEST will be used to train MOS 67R and 68Y in AH-64D diagnostics, troubleshooting and systems operations. It will be a powered device which will incorporate electrical system power and pneumatics to train multiple maintenance functions of armament, avionics, visionics, fire control, and electrical subsystems.

Financial Plan	Prior Years			FY 1997		FY 1998		FY 1999		Cost To Complete		Total Cost	
	Qty	Cost	\$000	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
				Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000
<b>HARDWARE COSTS</b>													
Device (hardware)				1	8975	2	16397	1	7892	6	45510	10	78774
ECOs													
Nonrecurring					3660		1519						5179
GFE													
Other (Specify)													
<b>SubTotal Hardware Costs</b>				1	12635	2	17916	1	7892	6	45510	10	83953
<b>SUPPORT COSTS</b>													
Special SE													
Integrated Logistics Support													
Other (Specify)													
<b>SubTotal Support Costs</b>					12635		17916		7892		45510		83953
Software/Courseware													
<b>TOTAL COSTS</b>					12635		17916		7892		45510		83953



Simulator and Training Device Justification (Page 3)										DATE		February 1997	
Training Device By Type										Weapon System (if applicable)			
Airframe Engines and Drive/Train Systems Trainer (AEDST)										Longbow Apache			
Description / Justification													
The AEDST will be used primarily to train MOS 67R and MOS 68Y AH-64D remove and replace tasks. It will be an unpowered device.													
Financial Plan	Prior Years			FY 1997		FY 1998		FY 1999		Cost To Complete		Total Cost	
	Qty	Cost		Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
	Each	\$000		Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000
<b>HARDWARE COSTS</b>													
Device (hardware)				3	10229			2	6230	7	20805	12	37264
ECOs													
Nonrecurring					1221								1727
GFE													
Other (Specify)													
<b>SubTotal Hardware Costs</b>				3	10735			2	6230	7	20805	12	38991
<b>SUPPORT COSTS</b>													
Special SE													
Integrated Logistics Support													
Other (Specify)													
<b>SubTotal Support Costs</b>													
Software/Courseware													
<b>TOTAL COSTS</b>					1221		10735		6230		20805		38991



BUDGET ITEM JUSTIFICATION SHEET												DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE											
AIRCRAFT PROCUREMENT / Modification of Aircraft		APACHE LONGBOW FCR (AA6609)											
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program		
QUANTITY		10	10	21	40	45	44	42	15		227		
COST (in millions)		85.5	89.6	97.0	98.2	116.0	113.5	82.4	26.9	39.3	748.4		
Initial Spares (in millions)													
Total (in millions)		85.5	89.6	97.0	98.2	116.0	113.5	82.4	26.9	39.3	748.4		
Unit Cost (in millions) *		12.7	10.4	5.3	3.1	2.9	3.0	2.4	2.6		4.1		

**DESCRIPTION:**

The Longbow Weapon System (AH-64D) consists of a modified AH-64D airframe, a Fire Control Radar (FCR) mission kit and a Longbow HELLFIRE missile. Two hundred twenty seven AH-64Ds will incorporate the General Electric T700-GE-701C engines for improved performance when carrying the FCR mission kits. Those AH-64D aircraft fielded without the FCR mission kits will have the T700-GE-701 engines installed, but can accept the FCR mission kit with T700-GE-701C engines. The Longbow Weapon System will provide the AH-64 with automatic target detection, classification, prioritization and a true fire-and-forget engagement capability, greatly increasing weapon system effectiveness and aircraft survivability. The weapon system will be employable day or night, in adverse weather and in obscuration. The weapon system will effectively engage and destroy advanced threat armor on the Airland Battlefield of the late 1990s and into the next century. To be effective and survive on this future battlefield, the attack helicopter team will rapidly engage multiple targets with minimum exposure time, and deploy a system that is inherently resistant to threat countermeasures (CMs).

**JUSTIFICATION:**

FY 98 funds buy 21 FCRs and FY 99 funds buy 40 FCRs. FCR quantities & funding reflect proposed multiyear procurements for FY 98-03. FY 95 Advance Procurement is included in AA6607. Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines.

\*Unit costs are annual procurement unit costs including advanced procurement.

INDIVIDUAL MODIFICATION		Date	February 1997																														
MODIFICATION TITLE:	Apache Longbow FCR TBD2																																
MODELS OF SYSTEMS AFFECTED:	AH-64 Attack Helicopter (Apache)																																
DESCRIPTION / JUSTIFICATION:	<p>The Longbow Fire Control Radar (FCR) is a millimeter wave target acquisition system developed for integration on the Apache Attack Helicopter. The FCR provides three tactical modes of operation. They are the Ground Targeting Mode (GTM), the Air Targeting Mode (ATM), and the Terrain Profile Mode (TPM). In the GTM, the FCR provides the capability to rapidly scan up to approximately 50 square kilometers of the battlefield. It uses selectable scan widths which are directionally controllable by the crew. In this mode, the FCR detects, locates, classifies, and prioritizes moving and stationary targets. The targets are classified as air defense units, track vehicles, wheel vehicles, helicopters, fixed wing aircraft, or unknown. It has the capability to detect stationary targets out to a range of six kilometers and moving targets out to eight kilometers. In the ATM the FCR detects, classifies and prioritizes airborne targets. The TPM provides terrain avoidance information to the crew for navigation during periods of reduced visibility. The FCR does all the above day or night and during periods of reduced visibility caused by atmospheric conditions and/or battlefield obscuration. In both targeting modes, the FCR provides rapid target acquisition and engagement while reducing exposure and providing multiple target engagement capability when coupled with the fire-and-forget Longbow Hellfire Missile. The FCR is a fully integrated system on the AH-64D which provides enhanced situational awareness, survivability, and lethality.</p>																																
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 20%; text-align: center;">PLANNED</th> <th style="width: 20%; text-align: center;">ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>Milestone I In Process Review</td> <td style="text-align: center;">Aug-85</td> <td style="text-align: center;">Aug-85</td> </tr> <tr> <td>Preliminary Design Contract Award</td> <td style="text-align: center;">Nov-85</td> <td style="text-align: center;">Nov-85</td> </tr> <tr> <td>Milestone IB (DAB)</td> <td style="text-align: center;">Jul-89</td> <td style="text-align: center;">Jul-89</td> </tr> <tr> <td>Dev Test/Early User Test and Experimentation</td> <td style="text-align: center;">Feb-90</td> <td style="text-align: center;">Apr-90</td> </tr> <tr> <td>Milestone II</td> <td style="text-align: center;">Dec-90</td> <td style="text-align: center;">Dec-90</td> </tr> <tr> <td>Full Scale Dev Award</td> <td style="text-align: center;">Dec-90</td> <td style="text-align: center;">Dec-90</td> </tr> <tr> <td>Long Lead Time Items Contract Award</td> <td style="text-align: center;">Dec-94</td> <td style="text-align: center;">Dec-94</td> </tr> <tr> <td>Lot 1 Contract Award</td> <td style="text-align: center;">Nov-95</td> <td style="text-align: center;">Mar-96</td> </tr> <tr> <td>First Production Delivery</td> <td style="text-align: center;">Mar-97</td> <td></td> </tr> </tbody> </table>				PLANNED	ACCOMPLISHED	Milestone I In Process Review	Aug-85	Aug-85	Preliminary Design Contract Award	Nov-85	Nov-85	Milestone IB (DAB)	Jul-89	Jul-89	Dev Test/Early User Test and Experimentation	Feb-90	Apr-90	Milestone II	Dec-90	Dec-90	Full Scale Dev Award	Dec-90	Dec-90	Long Lead Time Items Contract Award	Dec-94	Dec-94	Lot 1 Contract Award	Nov-95	Mar-96	First Production Delivery	Mar-97	
	PLANNED	ACCOMPLISHED																															
Milestone I In Process Review	Aug-85	Aug-85																															
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Lot 1 Contract Award	Nov-95	Mar-96																															
First Production Delivery	Mar-97																																

INDIVIDUAL MODIFICATION															Date		February 1997		
MODIFICATION TITLE (Cont): Apache Longbow FCR TBD2																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
10	29.0	10	39.5	21	66.9	40	79.9	45	83.0	44	82.7	42	52.3	15	25.1			227	458.4
	56.5		50.1		30.1		18.3		33.0		30.8		30.1		1.8				290.0
RDT&E																			
PROCUREMENT																			
FCR Quantity																			
Recurring Hardware																			
Other Flyaway																			
Training Device																			
Other Support																			
Installation of Hardware																			
FY 1994 & Prior Eqpt -- Kits																			
FY 1995 Eqpt -- Kits																			
FY 1996 Eqpt -- Kits																			
FY 1997 Eqpt -- Kits																			
FY 1998 Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- Kits																			
FY 2001 Eqpt -- Kits																			
(FY(TC) Eqpt (xx kits)																			
Total Installation Cost																			
Total Procurement Cost		85.5		89.6		97.0		98.2		116.0		113.5		82.4		26.9		748.4	

METHOD OF IMPLEMENTATION Contractor			
Contract Dates:	FY 1997: Jan 97	ADMINISTRATIVE LEADTIME:	6 Months
Delivery Date:	FY 1997: Mar 98	FY 1998: Nov-98	22 Months
		FY 1999: Jan-00	
		FY 1999: Feb-99	

Installation Schedule: Apache Longbow FCR TBD2												
		FY 1994		FY 1995		FY 1996		FY 1997		FY 1998		February 1997
		& Prior		1		2		3		4		FY 1999
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		3		4		1		2		3		
		4		1		2		3		4		









FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										LONGBOW APACHE MODS (AA6807)										DATE										February 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BUDGET ITEM JUSTIFICATION SHEET											DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE										
AIRCRAFT PROCUREMENT Modification of Aircraft		LONGBOW (ADV PROC) (AA6870)										
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program	
QUANTITY											0	
COST (in millions)	117.0	16.9	22.5	36.9	41.7	39.8	36.9	29.3	29.5	99.4	469.9	
Initial Spares (in millions)											0.0	
Total (in millions)	117.0	16.9	22.5	36.9	41.7	39.8	36.9	29.3	29.5	99.4	469.9	
Unit Cost (in millions)												

**DESCRIPTION:**  
The Longbow program encompasses modifications to the AH-64 Apache as well as upgrades to the aircraft systems for the AH-64D series to efficiently and effectively integrate the Fire Control Radar (FCR) and radar frequency (RF) missile. It provides an adverse weather fire-and-forget missile capability that increases the lethality and survivability. The Longbow Apache also retains the capability to fire the Semi-Active Laser Hellfire. The design enhancements increase operational capability of the crew and provide increased survivability and lethality while complying with Congressional direction to standardize the fleet to a common configuration.

**JUSTIFICATION:**  
Under the Army Modernization Master Plan, all Apaches will be remanufactured to the common AH-64D configuration with 227 being equipped with the FCR kits and 701C engines. FY 98 and FY 99 funds Advance Procurement to support deliveries of airframes and FCRs. Long Lead funding is required to provide funding for those parts, tooling, test equipment, and materials which are lead time critical to the end item. Long lead funding is required to preserve the planned helicopter delivery schedule.

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10a) (COMPARISON OF REQUEST TO EXECUTION)							PRIOR YEAR FOR FISCAL YEAR PROGRAM 1996	
Weapon System Type (Model/Series No.) LONGBOW (ADV PROC)			FIRST SYSTEM AWARD DATE August 1996		FIRST SYSTEM COMPLETION DATE March 1998		DATE February 1997	
Advance Procurement / Advance Funding Items Requested / Actual			Quantity	Date Contract Award Required / Actual	Date Delivery of First Equipment Required / Actual	Production Lead Time in Months Total Requested (Adm/Prod) Actual (Adm/Prod)	Total Cost Requested	Actual Contract Cost
(1)			(2)	(3)	(4)	(5)	(6)	(7)
1. CFE - Airframe			Various Components Various Components	Dec-95 Mar-96	Oct-97 Oct-97	(6/22)-28 (6/22)-28	6.1	
2. GFE - FCR Kit							10.8	
3. SUBTOTAL							16.9	
4. EOQ (MYP)								
5. (CFE)								
6. (GFE) (Specify)								
7. SUBTOTAL							0.0	
8. Design								
9. Other (Indicate Specific Items)								
10. TOTAL							16.9	
NARRATIVE DESCRIPTION Advance Procurement will be used for part of the procurement of items that require initiation prior to FY1997 Program Execution. LL for Lot II buys items such as: Airframe - Avionics, Weapons, System and Display Processors, Applicable Specific Integrated Circuit, Active Matrix Liquid Crystal Display (AMLCD) Glass Assembly, Linear Variable Differential Transducer (LVDT), High Power Switching Modules (HPSMS). FCR-Mast Mounted Assembly (MMA), Low Power Radar Frequency (LPRF), Programmable Signal Processor (PSP), Radar Frequency Interferometer (RFI)								



WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL) (TOA, Dollars in Thousands)							BUDGET YEAR 1 FOR FISCAL YEAR PROGRAM 1998	
Weapon System Type (Model/Series No.) LONGBOW (ADV PROC)		FIRST SYSTEM AWARD DATE August 1996		FIRST SYSTEM COMPLETION DATE March 2000		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)		
Advance Procurement / Advance Funding Items		Quantity (2)	Date Contract Award Planned / Required (3)	Delivery Date of First Equipment Required (4)	Production Lead Time in Months (Adm / Prod) - Total (5)	Unit Cost (6)	Total Cost (7)	
1. CFE - Airframe		Various Components Various Components	Aug-96	Jun-99	(6/22)-28	N/A	26.4	
2. GFE - FCR Kit			Nov-97	Sep-99	(6/22)-28	N/A	10.5	
3. SUBTOTAL							36.9	
4. EOQ (MYP)								
5. (CFE)								
6. (GFE) (Specify)								
7. SUBTOTAL							0.0	
8. Design								
9. Other (Indicate Specific Items)								
10. TOTAL							36.9	
<b>NARRATIVE DESCRIPTION</b> Advance Procurement will be used for part of the procurement of items that require initiation prior to FY1999 Program Execution. LL for Lot IV buys items such as: Airframe Avionics (Doppler Velocity Rate Sensor, Embedded Global Positioning System Inertial Navigation Unit, (EGI)), Weapons, System and Display Processors, Applicable Specific Integrated Circuit, Active Matrix Liquid Crystal Display (AMLCD) Glass Assembly, Linear Variable Differential Transducer (LVDT), High Power Switching Modules (HPSMS). FCR-Mast Mounted Assembly (MMA), Low Power Radar Frequency (LPRF), Programmable Signal Processor (PSP), Radar Frequency Interferometer (RFI).								

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL) (TOA, Dollars in Thousands)					BUDGET YEAR 2 FOR FISCAL YEAR PROGRAM 1999	
Weapon System Type (Model/Series No.) LONGBOW (ADV PROC)					DATE	February 1997
FIRST SYSTEM AWARD DATE August 1996		FIRST SYSTEM COMPLETION DATE March 2001		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)		
Advance Procurement / Advance Funding Items	Quantity	Date Contract Award Planned / Required	Delivery Date of First Equipment Required	Production Lead Time in Months (Adm./Prod.) - Total	Unit Cost	Total Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. CFE - Airframe	Various Components	Aug-96	Aug-00	(6/22)-28	N/A	30.7
2. GFE - FCR Kit	Various Components	Nov-98	Sep-00	(6/22)-28	N/A	11.0
3. SUBTOTAL						41.7
4. EOQ (MYP)						
5. (CFE)						
6. (GFE) (Specify)						
7. SUBTOTAL						0.0
8. Design						
9. Other (Indicate Specific Items)						
10. TOTAL		Long Lead Lot V				41.7
NARRATIVE DESCRIPTION Advance Procurement will be used for part of the procurement of items that require initiation prior to FY2000 Program Execution. LL for Lot V buys items such as: Airframe - Avionics (Doppler Velocity Rate Sensor, Embedded Global Positioning System Inertial Navigation Unit, (EGI)), Weapons, System and Display Processors, Applicable Specific Integrated Circuit, Active Matrix Liquid Crystal Display (AMLCD) Glass Assembly, Linear Variable Differential Transducer (LVDT), High Power Switching Modules (HPSMS). FCR-Mast Mounted Assembly (MMA), Low Power Radar Frequency (LPRF), Programmable Signal Processor (PSP), Radar Frequency Interferometer (RFI).						

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT		UH-1 MODS (AB0602)									
Modification of Aircraft		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY		0	0	0	0	0	0	0	0		
COST (in millions)		4.9	4.8	4.7	4.6	4.6	4.6	3.5	3.5		

**DESCRIPTION:** The UH-1 helicopter is used for transportation of personnel, equipment and supplies, command & control, and medical evacuation. The UH-1 requires modification upgrades to ensure that it can operate on the modern battlefield and be logistically supportable through the year 2017. There are two models, the UH-1H and the UH-1V (MEDEVAC), most of which are located in National Guard units.

**JUSTIFICATION:** FY 98/99 funding will be used to procure and install navigation and communication avionics which are required because the currently installed avionics are quickly becoming logistically nonsupportable. Installation of modification kits is limited to those aircraft that will remain in the force structure through the year 2017.





MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY								
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
UH-1 MODS									
AB0602									
UH-1 Radar Altimeter (AN/APN-209)	0.7	0.1	0.6						1.4
VHF OMNI-Range (AN/ARN-123)	0.3	0.8	0.9	0.6	0.5	0.2			3.3
Single Channel Ground & Airborne Radio System (SINGGARS)	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.5	3.0
Improved Airborne Direction Finder (AN/ARN-149)	1.0	1.1	0.7	0.6	0.5	0.5	0.0	0.0	4.6
AN/APX-100 Transponder	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.7
Totals	2.2	2.3	2.5	1.5	1.4	1.2	0.8	0.9	13.0

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: UH-1 Radar Altimeter (AN/APN-209) 1-76-01-0802			
MODELS OF SYSTEMS AFFECTED: UH-1H/V			
DESCRIPTION / JUSTIFICATION: The altimeter provides a lighted warning to the crew when the aircraft descends below or climbs above the desired altitude settings. Required for Night Vision Goggle (NVG) missions, or when flying over blowing snow, water, or desert (featureless terrain).			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Development of the Radar Altimeter is complete.			

INDIVIDUAL MODIFICATION															February 1997						
MODIFICATION TITLE (Cont): UH-1 Radar Altimeter (AN/APN-209) 1-76-01-0802																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits	819	3.6	167	0.7															986	4.3	
Installation Kits Nonrecurring Equipment	819	9.2																	819	9.2	
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- 819	792	2.1	27	0.1															819	2.2	
FY 1997 Eqpt -- 167 Kits					167	0.6													167	0.6	
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx Kits)																					
Total Installation Cost	792	2.1	27	0.1	167	0.6													986	2.8	
Total Procurement Cost		14.9		0.8		0.6														16.3	

METHOD OF IMPLEMENTATION Contractor Field Teams	ADMINISTRATIVE LEADTIME: 1 month	PRODUCTION LEADTIME: 9 months
Contract Dates: FY 1997: Nov 96	FY 1998:	FY 1999:
Delivery Date: FY 1997: Sep 97	FY 1998:	FY 1999:



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: VHF OMNI-Range (AN/ARN-123) 1-84-01-1390			
MODELS OF SYSTEMS AFFECTED: UH-1H/V			
DESCRIPTION / JUSTIFICATION:			
<p>The AN/ARN-123 is the Army's standard VOR receiver and will replace the old AN/ARN-82 which is still being used in the UH-1. The AN/ARN-82 is being phased out throughout the Army and has been declared non-supportable by CECOM, the Army's communication command that manages the item. The VOR is the primary navigational aid used for in-route navigation and also around commercial airports (FAA requirement).</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
<p>Development of the AN/ARN-123 is complete.</p>			
PLANNED		ACCOMPLISHED	

INDIVIDUAL MODIFICATION														Date		February 1997				
MODIFICATION TITLE (Cont):																				
VHF OMNI-Range (AN/ARN-123) 1-84-01-1390																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	575	1.0	50	0.1	50	0.1	78	0.1	30	0.1									783	1.4
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	575	6.8	50	0.8	50	0.8	78	1.3	30	0.5									783	10.2
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- 575	270	1.4	160	0.8	145	0.9													575	3.1
FY 1997 Eqpt -- 50 Kits							50	0.3											50	0.3
FY 1998 Eqpt -- 50 Kits							50	0.3											50	0.3
FY 1999 Eqpt -- 78 Kits									78	0.5									78	0.5
FY 2000 Eqpt -- 30 Kits											30	0.2							30	0.2
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- Kits																				
FY 2003 Eqpt -- Kits																				
(FY(TC) Eqpt (xx Kits)																				
Total Installation Cost	270	1.4	160	0.8	145	0.9	100	0.6	78	0.5	30	0.2							783	4.4
Total Procurement Cost		9.2		1.7		1.8		2.0		1.1		0.2								16.0

METHOD OF IMPLEMENTATION Contractor Field Teams										ADMINISTRATIVE LEADTIME:			3 months			PRODUCTION LEADTIME:			9 months		
Contract Dates:										FY 1997: Jan 97			FY 1998: Jan 98			FY 1999: Jan 99			FY 1999: Sep 99		
Delivery Date:										FY 1997: Sep 97			FY 1998: Sep 98			FY 1999: Sep 99					

METHOD OF IMPLEMENTATION Contractor Field Teams      ADMINISTRATIVE LEADTIME: 3 months      PRODUCTION LEADTIME: 9 months

Contract Dates: FY 1997: Jan 97      FY 1998: Jan 98      FY 1999: Jan 99

Delivery Date: FY 1997: Sep 97      FY 1998: Sep 98      FY 1999: Sep 99



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Single Channel Ground and Airborne Radio System (SINCGARS) 1-81-01-1393			
MODELS OF SYSTEMS AFFECTED: UH-1H/V			
DESCRIPTION / JUSTIFICATION: The AN/ARN-201 SINCGARS radio will replace the old VHF-FM radio, which in the UH-1 could be either the AN/ARC-114, AN/ARC-131 or the AN/ARC-54. The old receivers are being phased out throughout the Army and have been declared non-supportable by CECOM, the Army's communication command that manages these radios. The SINCGARS will also provide anti-jam, frequency hopping capability which the old radios are unable to provide.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Development of SINCGARS is complete.			
		PLANNED	ACCOMPLISHED



INDIVIDUAL MODIFICATION																		February 1997	
MODIFICATION TITLE (Cont):																		Date	
Single Channel Ground and Airborne Radio System (SINGARS) 1-81-01-1393																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
RDT&E																			
PROCUREMENT																			
Kit Quantity																			
Installation Kits	475	2.2			50	0.3	58	0.4	75	0.5	75	0.5	50	0.4					
Installation Kits Nonrecurring Equipment																			
Equipment Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
Installation of Hardware																			
FY 1996 & Prior Eqpt -- 475	402	1.8	30	0.3	43	0.3													
FY 1997 Eqpt -- Kits																			
FY 1998 Eqpt -- 50 Kits							50	0.3	58	0.4									
FY 1999 Eqpt -- 58 Kits																			
FY 2000 Eqpt -- 75 Kits										75	0.5								
FY 2001 Eqpt -- 75 Kits												75	0.5						
FY 2002 Eqpt -- 50 Kits														50	0.5				
FY 2003 Eqpt -- Kits																			
(FY(TC) Eqpt (Kits)																			
Total Installation Cost	402	1.8	30	0.3	43	0.3	50	0.3	58	0.4	75	0.5	75	0.5	50	0.5			
Total Procurement Cost		4.0		0.3		0.6		0.7		0.9		1.0		0.9		0.5			

METHOD OF IMPLEMENTATION Contractor Field Teams

Contract Dates: FY 1997: 3 months  
FY 1998: Jan 98  
FY 1999: Dec 98

PRODUCTION LEADTIME: 12 months  
FY 1999: Jan 99  
FY 1999: Dec 99

Delivery Date: FY 1997:



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Improved Airborne Direction Finder (AN/ARN-149) 1-84-01-1389			
MODELS OF SYSTEMS AFFECTED: UH-1H/V			
DESCRIPTION / JUSTIFICATION: FAA regulations require that all aircraft flying in the vicinity of commercial airports be equipped with an ADF. The AN/ARN-149 is being procured to replace the old AN/ARN-83 which is still being used in the UH-1 but not other Army helicopters. The AN/ARN-83 is being phased out throughout the Army and has been declared non-supportable by CECOM, the Army's communication command that manages the item. An ADF is required in all military aircraft for utilization of tactical non-directional beacons on the battlefield.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Development is complete for the AN/ARN-149.		PLANNED	ACCOMPLISHED

INDIVIDUAL MODIFICATION														February 1997							
MODIFICATION TITLE (Cont): Improved Airborne Direction Finder (AN/ARN-149) 1-84-01-1389														Date							
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits	541	1.8	50	0.2	50	0.2	78	0.2	64	0.2									783	2.6	
Installation Kits Nonrecurring Equipment	541	5.5	50	0.7	50	0.8	78	1.1	64	0.9									783	9.0	
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt --541	280	1.9	160	1.1	101	0.7													541	3.7	
FY 1997 Eqpt -- 50 Kits							50	0.3											50	0.3	
FY 1998 Eqpt -- 50 Kits							50	0.3											50	0.3	
FY 1999 Eqpt -- 78 Kits									78	0.5									78	0.5	
FY 2000 Eqpt -- 64 Kits											64	0.5							64	0.5	
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx Kits)																					
Total Installation Cost	280	1.9	160	1.1	101	0.7	100	0.6	78	0.5	64	0.5							783	5.3	
Total Procurement Cost		9.2		2.0		1.7		1.9		1.6		0.5								16.9	
METHOD OF IMPLEMENTATION Contractor Field Teams														3 Months		9 Months					
Contract Dates:														FY 1999:		Jan 99					
Delivery Date:														FY 1999:		Sep 99					

Installation Schedule: Improved Airborne Direction Finder (AN/ARN-149) 1-84-01-1389																							
FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				February 1997			
& Prior				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
				Date																			

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: AN/APX-100 Transponder 1-81-01-1394			
MODELS OF SYSTEMS AFFECTED: UH-1H/V			
DESCRIPTION / JUSTIFICATION: The AN/APX-100 is the Army's standard transponder and is used in most Army aircraft. The UH-1 is equipped with the old AN/APX-72 which CECOM, the Army's communication command that manages the item, has declared logistically nonsupportable past the year 2001. The APX-100 is used during military operations for identification friend/foe (IFF) and is also required by the FAA for flights around commercial airports so the control tower can identify the aircraft.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Development of the AN/APX-100 is complete.			
		PLANNED	ACCOMPLISHED



Installation Schedule: AN/APX-100 Transponder 1-81-01-1394														
Date														
February 1997														
FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 FY 2004 FY 2005														
Total														
<b>Inputs</b>														
FY 1996 & Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2
FY 1997														
FY 1998														
FY 1999														
<b>Outputs</b>														
FY 1996 & Prior														
FY 1997														
FY 1998														
FY 1999														
<b>Inputs</b>														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	2
FY 2001														
FY 2002														
FY 2003														
<b>Outputs</b>														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
<b>Remarks:</b>														
Kits are authorized for installation only on UH-1s that will remain in the Army's inventory through 2017.														
483 are input for installation later.														



BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT /2. Modification of Aircraft										
P-1 ITEM NOMENCLATURE										
UH-60 MODS (AA0480)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		
COST (in millions)	23.7	12.4	14.4	16.5	16.4	16.0	14.4	14.4		

**DESCRIPTION:**

The UH-60A/L is a twin engine, single rotor helicopter that is used in the performance of the air assault, air cavalry and aeromedical evacuation missions. It is designed to carry a crew of three plus eleven combat-equipped troops or an external load up to 9,000 pounds. It performs the mission of transporting troops and equipment into combat, resupplying the troops while in combat and performing aeromedical evacuation, repositioning of reserves, and command and control. The UH-60 is a highly effective versatile contributor across the continuum of military operations, i.e., civil disaster relief, drug intervention, national and humanitarian assistance.

**JUSTIFICATION:**

The modifications that will occur during FY98 & FY99 are the UH-60A Refurbishment/Standardization modification, procurement and installation of the External Stores Support System (ESSS) Auxiliary Fuel Monitoring System (AFMS), procurement of the Battery/Power Light Relocate and the completion of the installation of SINGGARS. Additionally, funding also provides for common fleet modifications to be applied to the EH-60A QUICK FIX and MH-60K SOA aircraft. These modifications provide a more capable aircraft to support the combat mission requirements and provide for enhanced aircraft safety and more efficient and less expensive operation and support.

BUDGET ITEM JUSTIFICATION SHEET		DATE
APPROPRIATION / BUDGET ACTIVITY	P-1 ITEM NOMENCLATURE	February 1997
AIRCRAFT PROCUREMENT /2. Modification of Aircraft		UH-60 MODS (AAQ480)

[illegible]

MODIFICATION INSTALLATION SUMMARY										Date
										February 1997
(TOA, Dollars in Millions)										
PY										
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL	
No P3a Set for modification										
UH-60 MODS										
AA0480										
Refurbishment/Standardization	62.6	10.8	4.7	1.5	0.0	0.0	0.0	0.0	79.6	
Single Channel Ground & Airborne Radio Sys (SINGARS)	23.3	0.0	1.3	0.0	0.0	0.0	0.0	0.0	24.6	
Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS)	0.0	0.1	0.9	0.4	1.8	0.0	0.0	0.0	3.2	
Fire Extinguisher Circuitry	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	
5/8" Fuel Line	0.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.5	
Halon Changeout	0.0	0.0	0.4	0.9	0.8	0.0	0.0	0.0	2.1	
Battery/Utility Lights Power Relocation	0.0	0.0	0.0	0.0	0.3	2.2	2.9	1.5	6.9	
NVG Lighting Lower Console	0.0	0.6	0.0	0.0	1.3	1.9	0.6	0.0	4.4	
Engine Driveshaft Redesign	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	1.0	
Totals	88.2	12.4	7.3	2.8	4.2	4.1	3.8	2.2	125.0	

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Refurbishment/Standardization 1-92-01-1942	
MODELS OF SYSTEMS AFFECTED:		UH-60A Black Hawk	
DESCRIPTION / JUSTIFICATION:			
<p>This is a block mod improvement. The mod kits have been procured in order to take advantage of a cost savings with an economic order quantity buy contract. This was considered to be more efficient than procuring 60 per year for 5 years. The total quantity of 300 kits have been procured and the engineering non-recurring effort has been obligated. The FY99 and prior effort is to install the kits. The UH-60 refurbishment/standardization program is the number one priority materiel change for the Black Hawk and has remained fully funded through a stretched schedule since initiation in 1991. This mod supports the plan for fielding of UH-60Ls to the "first to fight" units with the displaced UH-60As being provided to the Army Reserve and National Guard in support of the Congressional desire to modernize those units. The requirement is to refurbish and standardize 300 of the 550 older UH-60A Black Hawks.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Project Initiated	PLANNED Jun-91	ACCOMPLISHED Jun-91	
Production Contract Award	Mar-92	Apr-92	
First Kit Applied	Aug-93	Jan-93	
Last Kit applied	Dec-99		

INDIVIDUAL MODIFICATION														
MODIFICATION TITLE (Cont): Refurbishment/Standardization 1-92-01-1942														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL				
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E														
PROCUREMENT														
Kit Quantity	300	24.0											300	24.0
Installation Kits														
Installation Kits Nonrecurring														
Equipment														
Equipment Nonrecurring														
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														
Other														
Interim Contractor Support														
Installation of Hardware														
FY 1996 & Prior Eqpt--Kits	236	62.6	40	10.8	19	4.7	5	1.5					300	79.6
FY 1997 Eqpt -- Kits														
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- Kits														
FY 2001 Eqpt -- Kits														
FY 2002 Eqpt -- Kits														
FY 2003 Eqpt -- Kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost	236	62.6	40	10.8	19	4.7	5	1.5					300	79.6
Total Procurement Cost		95.1		10.8		4.7		1.5						112.1

METHOD OF IMPLEMENTATION	ADMINISTRATIVE LEADTIME:	PRODUCTION LEADTIME:
Contract Dates:	FY 1997:	FY 1999:
Delivery Date:	FY 1997:	FY 1999:



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Single Channel Ground & Airborne Radio Sys (SINGGARS) 1-84-01-1977		
MODELS OF SYSTEMS AFFECTED:	UH-60A Black Hawk		
DESCRIPTION / JUSTIFICATION:	<p>Provides for installation of the Single Channel Ground and Airborne Radio System (SINGGARS) radio which allows the aircraft to communicate with the remainder of the Army in the secure anti-jam frequency hopping FM mode. Provides for incorporation of physical and electrical interfaces required to accommodate the installation of either the AN/ARC-201(V) or AN/ARC-186(V) radio system separately or in any combination with one another. SINGGARS fieldings are in process in Korea, USA Pacific, 18th Airborne Corps and III Corps. OLR teams will modify 1055 aircraft at 400 hours each for a total of 422,000 hours. 300 additional aircraft are being modified with SINGGARS under the Refurbishment/Standardization program at Corpus Christi Army Depot and AVCRADS located in Connecticut and California.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
FY96 Installation Contract Awarded Last Kit Applied		Feb-96 Sep-98	Feb-96

INDIVIDUAL MODIFICATION															Date		February 1997							
MODIFICATION TITLE (Cont):															Single Channel Ground & Airborne Radio Sys (SINCGARS) 1-84-01-1977									
FINANCIAL PLAN: (\$ in Millions)																								
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL						
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$					
RDT&E																								
PROCUREMENT																								
1055	19.4																	1055	19.4					
Kit Quantity																								
Installation Kits																								
	3.5																		3.5					
Installation Kits Nonrecurring Equipment																								
Equipment Nonrecurring																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
Other																								
Interim Contractor Support																								
Installation of Hardware																								
995	23.3							60	1.3									1055	24.6					
FY 1996 & Prior Eqpt -- Kits																								
FY 1997 Eqpt -- Kits																								
FY 1998 Eqpt -- Kits																								
FY 1999 Eqpt -- Kits																								
FY 2000 Eqpt -- kits																								
FY2001 Eqpt -- kits																								
FY 2002 Eqpt -- kits																								
FY 2003 Eqpt -- kits																								
(FY(TC) Eqpt (xx kits)																								
995	23.3							60	1.3									1055	24.6					
Total Installation Cost																								
	46.2																		47.5					
Total Procurement Cost																								
METHOD OF IMPLEMENTATION															ADMINISTRATIVE LEADTIME:					PRODUCTION LEADTIME:				
Contract Dates:															FY 1997:					FY 1998:				
Delivery Date:															FY 1997:					FY 1998:				
															Months					Months				



Installation Schedule: Single Channel Ground & Airborne Radio Sys (SINGGARS) 1-84-01-1977															
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	1	2
		1	2	3	4	1	2	3	4	1	2	3	4	1	2
Inputs															
FY 1996 & Prior		995				15	15	15	15						
FY 1997															
FY 1998															
FY 1999															
Outputs															
FY 1996 & Prior		995				15	15	15	15						
FY 1997															
FY 1998															
FY 1999															
Inputs															
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4	1	2
FY 2001															
FY 2002															
FY 2003															
Outputs															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
Total															
1055															
Remarks:															

INDIVIDUAL MODIFICATION		Date	February 1997															
MODIFICATION TITLE:		Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS) 1-94-01-1948																
MODELS OF SYSTEMS AFFECTED:		UH-60A Black Hawk																
DESCRIPTION / JUSTIFICATION:		<p>The Auxiliary Fuel Monitoring System (AFMS) shall provide the pilots with a fuel quantity display for each installed auxiliary fuel tank. Each tank will have its own fuel probe. The system will monitor external fuel for imbalance conditions that result in aircraft lateral center-of-gravity changes that exceed a certain designated value. If an imbalance is detected, the system will activate a light on the AFMS panel, the aux fuel segment light on the caution/advisory panel, and the master warning panel. Aircrews will have the capability to directly read the weight of all the auxiliary fuel that may be in each of the External Stores Support System (ESSS)/Extended Range Fuel System (ERFS) and store locations. This safety modification will continue to assure that a fully capable aircraft is available to support the combat mission requirement. Gauging will improve aircraft management of auxiliary fuel for everyday mission use of the system.</p>																
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="0"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>Project Initiated</td> <td>Mar-94</td> <td>Mar-94</td> </tr> <tr> <td>Production Contract Award</td> <td>Nov-95</td> <td>Aug-96</td> </tr> <tr> <td>First Kit Applied</td> <td>Jan-97</td> <td></td> </tr> <tr> <td>Last Kit applied</td> <td>Sep-00</td> <td></td> </tr> </tbody> </table>			PLANNED	ACCOMPLISHED	Project Initiated	Mar-94	Mar-94	Production Contract Award	Nov-95	Aug-96	First Kit Applied	Jan-97		Last Kit applied	Sep-00	
	PLANNED	ACCOMPLISHED																
Project Initiated	Mar-94	Mar-94																
Production Contract Award	Nov-95	Aug-96																
First Kit Applied	Jan-97																	
Last Kit applied	Sep-00																	



Installation Schedule: Ext Stores Sup Sys (ESSS) Aux Fuel Monitoring Sys (AFMS) 1-94-01-1948

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		Total	
	& Prior	1	2	3	4	1	2	3	4	1	2	3		4
Inputs														
FY 1996 & Prior			42	64	64	64	66						300	
FY 1997														
FY 1998								30	30	30	35		125	
FY 1999										127	127	127	126	507
Outputs														
FY 1996 & Prior			42	64	64	64	66						300	
FY 1997														
FY 1998													125	
FY 1999								30	30	30	35		507	
										127	127	127	126	
							</							

Remarks:  
\* Qty procured includes 1 kit for ATCOM New Equipment Training Team (NETT)

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE:	5/8" Fuel Line 1-94-01-1950	
MODELS OF SYSTEMS AFFECTED:	UH-60A Black Hawk	
DESCRIPTION / JUSTIFICATION:	<p>The UH-60 has bubble traps in an existing 1" fuel line. Outgassing of aircraft fuel can occur at all temperatures and the bubbles generated subsequently collect in the bubble traps. Under certain conditions, the bubble can get large enough to cause the aircraft low fuel pressure lights to activate, and the engine to flame out due to fuel starvation. This change will replace the existing horizontal 1" inner diameter (ID) self-sealing fuel hose with a 5/8" ID self-sealing fuel hose.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
Project Initiated Contract Awarded First Kit Installed Last Kit Installed	PLANNED Apr-94 Mar-95 Jun-96 Sep-97	ACCOMPLISHED Apr-94 Mar-95 Jun-96





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Halon Changeout 1-92-01-1945	
MODELS OF SYSTEMS AFFECTED:		UH-60L Black Hawk	
<p>DESCRIPTION / JUSTIFICATION:</p> <p>Procurement of halon violates the Montreal Protocol and violates the Clean Air Act. This modification will retrofit hand held aircraft fire extinguishers and the on board engine fire extinguishing system. The current halon extinguishers and systems deplete the ozone level and halon will be replaced with a new chemical agent. This mod will be applied to UH-60Ls.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Project Initiated	Sep-92	Sep-92	
Retrofit Contract Awarded	Dec-97		
First Kit Applied	Apr-98		
Last Kit Applied	Sep-00		



INDIVIDUAL MODIFICATION																								
Date February 1997																								
MODIFICATION TITLE (Cont): Halon Changeout 1-92-01-1945																								
FINANCIAL PLAN: (\$ in Millions)																								
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL					
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
RDT&E																								
PROCUREMENT																								
Kit Quantity																								
Installation Kits			180	4.3	159	3.8	115	2.9											454	11.0				
Installation Kits Nonrecurring Equipment		0.1																		0.1				
Equipment Nonrecurring																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
Other																								
Interim Contractor Support																								
Installation of Hardware																								
FY 1996 & Prior Eqpt -- Kits																								
FY 1997 Eqpt -- Kits																								
FY 1998 Eqpt -- Kits			90	0.4	90	0.4													180	0.8				
FY 1999 Eqpt -- Kits					103	0.5			56	0.3									159	0.8				
FY 2000 Eqpt -- kits									115	0.5									115	0.5				
FY 2001 Eqpt -- kits																								
FY 2002 Eqpt -- kits																								
FY 2003 Eqpt -- kits																								
(FY(TC) Eqpt (xx kits)																								
Total Installation Cost			90	0.4	193	0.9	171	0.8											454	2.1				
Total Procurement Cost		0.1		4.7		4.7		3.7												13.2				
METHOD OF IMPLEMENTATION																								
Contract Dates:										ADMINISTRATIVE LEADTIME:					3 Months					PRODUCTION LEADTIME:				
Delivery Date:										FY 1997:					FY 1998:					FY 1999:				
Contract Field Team										FY 1997:					Dec 97					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 1999:				
Contract Field Team										FY 1997:					Apr 98					FY 19				

Installation Schedule: Halon Changeout 1-92-01-1945

	FY 1996 & Prior				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				Total
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4									
Inputs																																									
FY 1996 & Prior																																									
FY 1997																																									
FY 1998																																									
FY 1999																																									
Outputs																																									
FY 1996 & Prior																																									
FY 1997																																									
FY 1998																																									
FY 1999																																									
Inputs																																									
FY 2000																																									
FY 2001																																									
FY 2002																																									
FY 2003																																									
Outputs																																									
FY 2000																																									
FY 2001																																									
FY 2002																																									
FY 2003																																									
Total																																									

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE: Battery/Power Light Relocate 1-94-01-1953		February 1997
MODELS OF SYSTEMS AFFECTED: UH-60 A/L Black Hawk		
DESCRIPTION / JUSTIFICATION: Provide the fleet with a low cost, low maintenance, longer life, battery, which would replace the existing maintenance intensive Nickel Cadmium battery. Maintenance cost will be reduced and disposal cost minimized by providing a recyclable battery. The new battery will meet the EPA environmental health hazard restrictions.		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
Contract Awarded First Kit Installed Last Kit Installed	PLANNED  Dec-98 Jan-00 Sep-03	ACCOMPLISHED

INDIVIDUAL MODIFICATION															Date		February 1997			
MODIFICATION TITLE (Cont): Battery/Power Light Relocate 1-94-01-1953																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior Qty	\$	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity					50	0.4	675	5.6	*728	6.0								1453	12.0	
Installation Kits																				
Installation Kits Nonrecurring Equipment		0.3																		
Equipment Nonrecurring Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- Kits																				
FY 2001 Eqpt -- Kits																				
FY 2002 Eqpt -- Kits																				
FY 2003 Eqpt -- Kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost		0.3							0.4											
																			1448	6.9
																				19.2
METHOD OF IMPLEMENTATION Contract Field Team																	12 Months			
Contract Dates: FY 1997: FY 1998: FY 1999:																	PRODUCTION LEADTIME: Dec 98 Jan 00			
Delivery Date: FY 1997: FY 1998: FY 1999:																				

Installation Schedule: Battery/Power Light Relocate 1-94-01-1953																
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2004		FY 2005		
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																
FY 1996 & Prior																
FY 1997																
FY 1998																
FY 1999																
50																
Outputs																
FY 1996 & Prior																
FY 1997																
FY 1998																
FY 1999																
20																
30																
50																
Inputs																
FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		FY 2005		FY 2005		
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total
120																
120																
120																
150																
50																
100																
150																
159																
680																
718																
Outputs																
FY 2000																
FY 2001																
FY 2002																
FY 2003																
120																
120																
120																
150																
50																
100																
150																
159																
680																
718																
Remarks:																
*5 to be installed in maintenance trainers by field personnel																

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		NVG Lighting Lower Console 1-90-01-1933	
MODELS OF SYSTEMS AFFECTED:		UH-60 A/L Black Hawk	
DESCRIPTION / JUSTIFICATION:			
<p>This is a safety related requirement resulting from incident report findings stipulating the lack of the lower console lighting as a present factor in the incident. This safety related improvement assures improved cockpit lighting preventing degrading the capabilities of the goggles and elimination of the pilot's/co-pilot's need to transition from goggles to no-goggles (heads down) in order to see and operate the radio control heads. Until this is accomplished, the radios and equipment in the lower console must remain unlighted.</p> <p>Existing cockpit lighting and relighted radio control panels will be upgraded to be in conformance with DOD Spec MIL-L-85762 and compatible with ANVIS-6 goggles. The proposed cockpit lighting upgrade will improve night operations capability.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Project Initiated	Jan-90	Jan-97	
Contract Award	Mar-97		
First Kit Applied	Jun-97		
Last Kit Applied	Jan-02		

INDIVIDUAL MODIFICATION															Date		February 1997												
MODIFICATION TITLE (Cont): NVG Lighting Lower Console 1-90-01-1933																													
FINANCIAL PLAN: (\$ in Millions)																													
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL											
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$										
RDT&E																													
PROCUREMENT																													
200	1.3							500	3.7	750	5.6							1450	10.6										
Kit Quantity																													
Installation Kits																													
Installation Kits Nonrecurring																													
Equipment																													
Equipment Nonrecurring																													
Engineering Change Orders																													
Data																													
Training Equipment																													
Support Equipment																													
Other																													
Interim Contractor Support																													
Installation of Hardware																													
		200	0.6															200	0.6										
FY 1996 & Prior Eqpt -- Kits																													
FY 1997 Eqpt -- Kits																													
FY 1998 Eqpt -- Kits																													
FY 1999 Eqpt -- Kits																													
FY 2000 Eqpt -- Kits																													
FY 2001 Eqpt -- Kits																													
FY 2002 Eqpt -- Kits																													
FY 2003 Eqpt -- Kits																													
(FY(TC) Eqpt (xx kits)																													
Total Installation Cost																													
		200	0.6					450	1.3	600	1.9		200	0.6				1450	4.4										
Total Procurement Cost																													
	1.3		0.6						5.0		7.5		0.6						15.0										
METHOD OF IMPLEMENTATION																													
Contract Dates: FY 1997: Mar 97										ADMINISTRATIVE LEADTIME: FY 1998: Jul 97										PRODUCTION LEADTIME: 4 mo.									
Delivery Date: FY 1997: Jul 97										FY 1998: Jul 97										FY 1999: Jul 97									

Installation Schedule: NVG Lighting Lower Console 1-90-01-1933													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Date		1		2		3		4		1		2	
February 1997		1		2		3		4		1		2	
FY 2001		1		2		3		4		1		2	
FY 2004		1		2		3		4		1		2	
FY 2005		1		2		3		4		1		2	
Total		1		2		3		4		1		2	
<b>Inputs</b>													
FY 1996 & Prior		50	50	50	50								
FY 1997													
FY 1998													
FY 1999													
<b>Outputs</b>													
FY 1996 & Prior		50	50	50	50								
FY 1997													
FY 1998													
FY 1999													
<b>Inputs</b>													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
<b>Outputs</b>													
FY 2000		150	150	150	50								
FY 2001													
FY 2002													
FY 2003													
<b>Remarks:</b>													



BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE								February 1997
AIRCRAFT PROCUREMENT /Modification of Aircraft		KIOWA WARRIOR (AZ2200)								
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	16 + 33 Retro	13 + 10 Retro	0	0	0	0	0	0		
COST (in millions)	210.6	198.7	38.8	34.9	26.8	11.9	11.5	11.6		
<p><b>DESCRIPTION:</b> The OH-58D Kiowa Warrior is a two-place, single-engine, light helicopter with four main rotor blades and a low-light television thermal imaging system and laser range finder/designator incorporated into a Mast Mounted Sight situated above the main rotor system. The aircraft is designed to operate autonomously at standoff ranges providing armed reconnaissance, command and control, and target acquisition and designation under day, night, and adverse weather conditions. The Kiowa Warrior can laser designate for precision guided munitions, Apache helicopters, and other airborne weapons platforms. Using the Airborne Target Handover System, the Kiowa Warrior is capable of providing adjustment of conventional artillery as well as handing over targets to the Apache and other weapons platforms. Efforts commenced in FY 91 to retrofit fielded aircraft with numerous improvements to include incorporation of both Air-to-Air Stinger and Air-to-Ground weapons. Provisions for in-line production incorporation began with the last six aircraft of the FY 89 procurement. In addition, Multi-Purpose Light Helicopter (MPLH) kits have been developed to provide a rapid deployment capability (15 minute flyaway from C-130 offload), 2000-pound external cargo hook capability, limited troop transport (six personnel), and emergency casualty evacuation (two litters). The upgraded Control Display System processor modification replaces three processors with two Joint Integrated Avionics Working Group standard 80960 processors. Hand-held Halon fire extinguishers will be replaced in accordance with the Clean Air Act of 1990, which prohibits the use of ozone-depleting chemicals. The Safety Enhancement Program (SEP) was initiated in FY 96 to incorporate R3 engines, crashworthy crew seats, and a supplemental restraint system. The SEP will improve recognition and identification of emergency situations, reduce pilot workload during emergency maneuvers, provide significant improvements to the crashworthiness of the airframe thus improving crew survivability, and improve engine reliability with the intent to reduce the probability of engine failure and exposure to emergency autorotations.</p> <p><b>JUSTIFICATION:</b> The FY 98 program continues the SEP efforts, funds the fielding of Kiowa Warrior aircraft procured with previous years' funding, and procures initial quantity of Crew Station Mission Equipment Trainers (CSMET). FY 98 funding will also incorporate anticipated changes to the Improved Master Controller Processor Unit (IMCPU) software following the Task Force XXI exercise and will install replacement fire extinguishers. The FY 99 program provides continued SEP, CSMET, and fire extinguisher efforts. The Army's most critical aviation deficiency is the lack of a night, armed reconnaissance capability. The Kiowa Warrior will serve as the Army's night, armed reconnaissance aviation capability until RAH-66 fielding begins and will continue to complement the Comanche throughout the Kiowa Warrior's projected 20-year life span, with gradual displacement to lower-priority, active and reserve component units as Comanches are fielded in quantities.</p>										

BUDGET ITEM JUSTIFICATION SHEET		DATE
APPROPRIATION / BUDGET ACTIVITY	P-1 ITEM NOMENCLATURE	February 1987
AIRCRAFT PROCUREMENT /Modification of Aircraft		KIOWA WARRIOR (A22200)

[illegible]

Simulator and Training Device Justification									
Appropriation / P-1 Line Item			Date				February 1997		
AIRCRAFT PROCUREMENT/KIOWA WARRIOR			Weapon System (if applicable)				Equipment Nomenclature		
			Kiowa Warrior				Crew Station Mission Equipment Trainer (CSMET)		
Fin Plan	Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Total
Quantity (Each)			8	18	10	6			42
Proc (\$000)			3230	7390	4210	2550			17380
RDT&E (\$000)	688	1130							1818
O&S (\$000)									

**TRAINING SYSTEM DESCRIPTION:**

The Crew Station Mission Equipment Trainer (CSMET) is a desktop training device that is being designed to support training requirements for the OH-58D Kiowa Warrior flight crews. The CSMET shall support refresher and sustainment training of those skills required to initialize, operate, and employ the weapon system, aircraft survivability equipment, Automatic Target Handover System, communication and navigation equipment, Mast Mounted Sight cockpit controls, data transfer system, Aviator Night Vision Imaging System (ANVIS) display, and airborne video tape recorder. The CSMET will network with other devices for collective training.

Currently, there are no Training Devices, Simulators or Simulations (TDSS) available to fielded Kiowa Warrior units. Therefore, the aircraft itself provides the only primary sustainment training device. By way of comparison, training using the "Hot Cockpit" (aircraft ground running time) costs \$800.00 per hour; flight training costs \$4,000.00 per hour; and the CSMET costs \$150.00 per hour. Training provided through the use of the actual aircraft is limited due to the inability to employ total system capabilities under combat conditions. When the actual aircraft are not available, the aviator cannot continue to practice crew skills. Aviator and crew skill decay is greatly accelerated without sustainment TDSS and has direct impact on combat readiness and proficiency. Additionally, such training results in substantial added maintenance, spares, and scheduling burdens. Ranges that would allow and support total employment of aircraft survivability equipment, weapons, navigation/communication, and other mission equipment package sophisticated systems are limited to Ft. Hood and the National Training Center at Ft. Irwin. A very limited range capability is present in Europe and Ft. Campbell. Hence, units in Korea have no training capability and all other units must deploy for extended distances/time to obtain essential training.

MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
KIOWA WARRIOR									
AZ2200									
Kiowa Warrior - Remanufacture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kiowa Warrior - Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upgraded Control Display System (CDS) Processor	0.0	0.0	0.8	0.5	0.4	0.8	0.9	1.2	4.6
Engine Reliability, Availability & Maintainability (RAMEP)	0.0	0.0	1.7	0.6	0.7	0.4	0.0	0.0	3.4
Halon Fire Extinguisher	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CSMET	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crew Seats - Safety Enhancement Program	0.0	0.0	0.4	0.1	0.1	0.0	0.0	0.0	0.6
Supplemental Restraint System - Safety Enhancement Prog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	0.0	0.0	2.9	1.2	1.2	1.2	0.9	1.2	8.6

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Kiowa Warrior - Remanufacture TBD 1	
MODELS OF SYSTEMS AFFECTED:		OH-58A	
DESCRIPTION / JUSTIFICATION:			
<p>The OH-58D Kiowa Warrior provides the Army with a versatile, lethal, deployable aircraft capable of seeing, fighting and surviving in all types of terrain and battlefield environments, day or night, with adverse visibility. It is an OH-58A airframe that is modified to accept an improved rotor-and-drive system, a fully integrated night-vision-compatible cockpit, a complete Airborne Target Handover System (ATHS), a precision navigation capability, and an above-the-rotor Mast Mounted Sight. Additional improvements include Air-to-Air Stinger, Air-to-Ground weapons (Hellfire, 2.75 inch rockets, and .50 caliber machine gun), and Multi Purpose Light Helicopter (MPLH) kits. This fully armed scout aircraft will be used in armed air cavalry reconnaissance and light attack helicopter units.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
FY 94 Contract Award	PLANNED	ACCOMPLISHED	
	Mar-94	Mar-94	
FY 94 Contract Delivery Start	Sep-95	Sep-95	
FY 95 Contract Award	Mar 95	Mar-95	
FY 95 Contract Delivery Start	Sep-96	Sep-96	
FY 96 Contract Award	Jul-96	Jul-96	
FY 96 Contract Delivery Start	Nov-97		
FY 97 Letter Contract Award	Feb-97		
FY 97 Contract Delivery Start	Sep-98		

INDIVIDUAL MODIFICATION																		
Date February 1997																		
MODIFICATION TITLE (Cont): Kiowa Warrior - Remanufacture TBD 1																		
FINANCIAL PLAN: (\$ in Millions)																		
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																		
PROCUREMENT	119		13														132	
Kit Quantity		574.0		74.6													648.6	
Hardware Recurring		71.0		2.7													73.7	
ECO's		17.8		1.1													18.9	
Data		7.9		0.6													8.5	
PGSE		102.0		23.0													125.0	
Other		24.9		5.6													30.5	
Project Mgt/Administration		12.2		1.2			0.1										2.9	
Fielding				1.9													14.1	
MPLH																		
Installation of Hardware*																		
FY 1996 & Prior Eqpt -- Kits																		
FY 1997 Eqpt -- Kits																		
FY 1998 Eqpt -- Kits																		
FY 1999 Eqpt -- Kits																		
FY 2000 Eqpt -- kits																		
FY 2001 Eqpt -- kits																		
FY 2002 Eqpt -- kits																		
FY 2003 Eqpt -- kits																		
(FY(TC) Eqpt (xx kits)																		
Total Installation Cost																		
Total Procurement Cost		809.8		110.7		1.6		0.1										922.2
METHOD OF IMPLEMENTATION Contractor																		
Contract Dates: FY 1997: 8 Months PRODUCTION LEADTIME: 18 Months																		
Delivery Date: FY 1997: FY 1998: FY 1999:																		

Installation Schedule: Kiowa Warrior - Remanufacture TBD 1													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Total													

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE: Kiowa Warrior - Retrofit 1-88-01-2103		February 1997
MODELS OF SYSTEMS AFFECTED: OH-58D AHIP		
<p>DESCRIPTION / JUSTIFICATION:</p> <p>Fielded OH-58D aircraft are retrofitted to the current production configuration of the fully armed Kiowa Warrior. That configuration consists of numerous improvements to include Air-to-Air Stinger (ATAS), Air-to-Ground (ATG) weapons (Hellfire, 2.75 inch rockets, and .50 caliber machine gun), and Multi-Purpose Light Helicopter (MPLH) kits. The ATAS will provide the Kiowa Warrior with a mid-range defensive and offensive air-to-air capability against threat aircraft. The ATG weapons capability will provide defensive and suppressive fire against threats and the ability to service high-priority targets. The MPLH kits (designed to alleviate a major deficiency in XVIII Airborne Corps) provide rapid deployment capability, a 2000-pound external cargo hook, limited troop transport, and emergency casualty evacuation. The OH-58D Kiowa Warrior will be fielded in air cavalry reconnaissance and light attack units. This aircraft provides the Army with a versatile, lethal, deployable aircraft capable of seeing, fighting, and surviving in all types of terrain and battlefield environments, day or night, with adverse visibility.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
ASARC IV/III	PLANNED Aug-89	ACCOMPLISHED Aug-89
Developmental Contract Award	Apr-91	Apr-91
Qualification Test	May-91	May-91
First Unit Equipped	May-93	May-93
Initial Operational Capability	Jun-93	Jun-93
Production Contract Award - Lot III	Jan-94	Jan-94
Production Contract Award - Lot IV	Jan-95	Jan-95
Production Contract Award - Lot V	Dec-95	Feb-96
Production Contract Award - Lot VI	Feb-97	



MODIFICATION TITLE (Cont): Kiowa Warrior - Retrofit 1-88-01-2103

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT	175	320.5	10	19.7															185	340.2
Kit Quantity		14.7																		14.7
Hardware Recurring		0.5																		0.5
ECO's		4.9																		5.1
Data		47.1																		51.3
PGSE		21.8																		24.7
Other		7.5																		9.7
Project Mgt/Administration																				
Fielding																				
Installation of Hardware*																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost	417.0		25.6		3.6															446.2

METHOD OF IMPLEMENTATION Contractor  
 Contract Dates: FY 1997: 8 Months  
 Delivery Date: FY 1997: 12 Months  
 ADMINISTRATIVE LEADTIME: 8 Months  
 PRODUCTION LEADTIME: 12 Months



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Upgraded Control Display System (CDS) Processor 1-93-01-2100	
MODELS OF SYSTEMS AFFECTED:		OH-58D Kiowa Warrior	
DESCRIPTION / JUSTIFICATION:			
<p>The existing Master Controller Processor Unit (MCPU), which serves as mission computer and bus controller, is limited in memory, throughput, and avionics bus message traffic capability. The design is based on 1970's technology and parts obsolescence is an increasing problem. The upgraded CDS MCPU provides the basic building block for integration of the existing Mission Equipment Package (MEP) and future growth capability for horizontal integration and digitization of the battlefield to aid situational awareness for the battle commander. This effort will replace three existing CDS processors with two state-of-the-art processors providing a 100% growth capability for memory and throughput while reducing the aircraft empty weight and operating and support costs. Growth capability is necessary for technical insertions such as Improved Data Modem, Battlefield Combat Identification System, Radio Frequency Interferometer (RFI), Improved Navigation System/Global Positioning System, Digital Map, etc. Task Force XXI software changes will be incorporated in the improved MCPU.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
B Kit Developmental Contract Award	PLANNED	ACCOMPLISHED	
	Nov-93		Nov-93
A Kit Developmental Contract Award	Sep-94		Sep-94
B&A Kit Production Contract Award	Mar-95		Mar-95
FY 96 Production Contract Award	Jul-96		Jul-96
FY 97 Production Contract Award	Jul-97		
FY 98 Production Contract Award	Apr-98		
FY 99 Production Contract Award	Apr-99		

INDIVIDUAL MODIFICATION															February 1997					
Upgraded Control Display System (CDS) Processor 1-93-01-2100																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity (B) *	63		13	1.2	9	0.4	13	0.3	24	0.6	26	0.7	33	0.9	32	0.9	133	4.8	346	9.8
Installation Kits (A)		10.9																		10.9
Installation Kits Nonrecurring Equipment (B)		14.4		4.0		2.7	3.5			6.7		7.4		9.7		9.5		48.8		106.7
Equipment Nonrecurring Engineering Change Orders		12.0																		12.0
Data																				5.0
Training Equipment		1.0																		1.0
Support Equipment		0.1																		0.2
Transportation																				
Interim Contractor Support																				
Installation Costs																				
FY 1996 & Prior Eqpt -- Kits					20	0.6													20	0.6
FY 1997 Eqpt -- Kits					6	0.2		7	0.2									13	0.4	
FY 1998 Eqpt -- Kits							9	0.3										9	0.3	
FY 1999 Eqpt -- Kits									13	0.4								13	0.4	
FY 2000 Eqpt -- Kits											24	0.8						24	0.8	
FY 2001 Eqpt -- Kits													26	0.9				26	0.9	
FY 2002 Eqpt -- Kits															33	1.2		33	1.2	
FY 2003 Eqpt -- Kits																	32	1.2	32	1.2
(FY(TC) Eqpt (xx kits)																	133	5.1	133	5.1
Total Installation Cost					26	0.8	16	0.5	13	0.4	24	0.8	26	0.9	33	1.2	165	6.3	303	10.9
Total Procurement Cost		38.4		5.2		8.9		4.3		7.7		8.9		11.5		11.6		60.0		156.5
METHOD OF IMPLEMENTATION Contractor & Fld Tms																	12 Months			
Contract Dates:																	PRODUCTION LEADTIME:		FY 1999: Apr 99	
Delivery Date:																	FY 1999: Apr 00		FY 1999: Apr 00	



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Engine Reliability, Availability & Maintainability (RAMEP) 1-91-01-2113			
MODELS OF SYSTEMS AFFECTED: OH-58D Kiowa Warrior			
<p>DESCRIPTION / JUSTIFICATION:</p> <p>As part of the Safety Enhancement Program, the current T-703 engine is improved to provide increased reliability, control responsiveness, and life. That configuration will be retrofit into the existing Kiowa Warrior fleet. This R3 engine will overcome the present rotor droop anomaly by providing faster response time to power demands and will increase the overall engine efficiency and reliability. This effort will provide reduced autorotational touchdown speed and will trim rotor speed to 100% in autorotation. With Full Authority Digital Electronic Control (FADEC), the engine will anticipate power needs and limit temperature spikes. New gas path components are more efficient and run cooler, thus delivering 18% more power in hot day conditions. Additional R3 major improvements are increased surge margin, increased transient performance, surge avoidance capability, hot start protection, and flame-out detection/relight capability. The upgrade increases time-between-overhaul (TBO) from 1000 hours to 2500 hours with very high reliability and reduced maintenance cost.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
RAMEP (R2) Contract Award - NRE	PLANNED	APR-95	ACCOMPLISHED
Modification Revised:			
RAMEP (R3) with FADEC Development Contract Definition	Jun-96		Jul-96
FY 95 Production Contract Award (Mid-Lots XII and IV)	Sep-96		Sep-96
FY 96 Production Contract Award	Sep-96		Sep-96
FY 97 Production Contract Award	Feb-97		
FY 98 Production Contract Award	Feb-98		
FY 99 Production Contract Award	Feb-99		

INDIVIDUAL MODIFICATION																		February 1997		
Engine Reliability, Availability & Maintainability (RAMEP) 1-91-01-2113																		Date		
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	48	2.8	156	7.9	51	2.6	62	3.3	39	2.1							84	5.1	440	23.8
Installation Kits		2.7																		2.7
Installation Kits Nonrecurring		13.0		43.1		14.3		17.8		11.5										127.3
Equipment		8.5																		8.5
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Transportation																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation Costs A&B*																				
FY 1996 & Prior Eqpt -- Kits					156	1.7		0.6											156	1.7
FY 1997 Eqpt -- Kits							51												51	0.6
FY 1998 Eqpt -- Kits																			62	0.7
FY 1999 Eqpt -- Kits																			39	0.4
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost					156	1.7	51	0.6	62	0.7	39	0.4					84	1.1	84	1.1
Total Procurement Cost		27.0		51.0		18.6		21.7		14.3		0.4						33.8		166.8

METHOD OF IMPLEMENTATION		Contractor & Fld Teams		ADMINISTRATIVE LEADTIME:		8 Months		PRODUCTION LEADTIME:		12 Months	
Contract Dates:		FY 1997: Feb-97		FY 1998: Feb-98		FY 1999: Feb-99		FY 1999: Feb-99		FY 1999: Feb-00	
Delivery Date:		FY 1997: Feb-98		FY 1998: Feb-98		FY 1999: Feb-99		FY 1999: Feb-99		FY 1999: Feb-00	

METHOD OF IMPLEMENTATION Contractor & Fld Teams ADMINISTRATIVE LEADTIME: 8 Months PRODUCTION LEADTIME: 12 Months

Contract Dates: FY 1997: Feb-97 FY 1998: Feb-98 FY 1999: Feb-99

Delivery Date: FY 1997: Feb-98 FY 1998: Feb-99 FY 1999: Feb-00

Installation Schedule: Engine Reliability, Availability & Maintainability (RAMEP) 1-91-01-2113																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
& Prior				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Halon Fire Extinguisher TBD 2	
MODELS OF SYSTEMS AFFECTED:		OH-58D Kiowa Warrior	
DESCRIPTION / JUSTIFICATION:			
<p>The U.S. Army is replacing its stock of hand-held Halon fire extinguishers with CO2 extinguishers in accordance with the Clean Air Act of 1990. This law prohibits the use of ozone depleting chemicals (ODC).</p> <p>There is no longer any small hand-held Halon 1301 fire extinguishers in stock at Defense Logistics Agency. Consequently, some aircraft could be grounded because of a lack of a CO2 hand-held fire extinguisher. All actions are being expedited.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
FY 96 Contract Award		<u>PLANNED</u> Sep-96	<u>ACCOMPLISHED</u> Sep-96





INDIVIDUAL MODIFICATION		Date	February 1997															
MODIFICATION TITLE:		CSMET TBD 3																
MODELS OF SYSTEMS AFFECTED:		OH-58D Kiowa Warrior																
DESCRIPTION / JUSTIFICATION:		<p>The Crew Station Mission Equipment Trainer (CSMET) is a desktop training device that is being designed to support training for the OH-58D Kiowa Warrior flight crews. The CSMET shall support refresher and sustainment training of those skills required to initialize, operate, and employ the weapon system, aircraft survivability equipment, Automatic Target Handover System, communication and navigation equipment, Mast Mounted Sight cockpit controls, data transfer system, Aviator Night Vision Imaging System (ANVIS) display, and airborne video tape recorder. The CSMET will network with other devices for collective training. Currently, there are no Training Devices, Simulators or Simulations (TDSS) available to fielded Kiowa Warrior units. Therefore, the aircraft itself provides the only primary sustainment training device.</p>																
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>May-96</td> <td>May-96</td> </tr> <tr> <td>Sep-96</td> <td>Sep-96</td> </tr> <tr> <td>Apr-97</td> <td>Nov-96</td> </tr> <tr> <td>Jan-98</td> <td></td> </tr> <tr> <td>Jan-99</td> <td></td> </tr> <tr> <td>Jan-00</td> <td></td> </tr> <tr> <td>Jan-96</td> <td></td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	May-96	May-96	Sep-96	Sep-96	Apr-97	Nov-96	Jan-98		Jan-99		Jan-00		Jan-96	
PLANNED	ACCOMPLISHED																	
May-96	May-96																	
Sep-96	Sep-96																	
Apr-97	Nov-96																	
Jan-98																		
Jan-99																		
Jan-00																		
Jan-96																		

INDIVIDUAL MODIFICATION																				
MODIFICATION TITLE (Cont): CSMET TBD 3																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E	0.7		1	1.1																1.8
PROCUREMENT																				
Quantity																				
Installation Kits					8		18		10		6								42	
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment						3.2		7.4		4.2		2.6								17.4
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost																				
METHOD OF IMPLEMENTATION Stand-alone Device																				
Contract Dates: FY 1997:      FY 1998:      FY 1999:      FY 2000:      12 Months																				
Delivery Date: FY 1997:      FY 1998:      FY 1999:      FY 2000:      Jan-99      Jan-00																				



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Crew Seats - Safety Enhancement Program TBD-4	
MODELS OF SYSTEMS AFFECTED:		OH-58D Kiowa Warrior	
DESCRIPTION / JUSTIFICATION:		<p>As part of the Safety Enhancement Program, crashworthy Crew Seats will be incorporated into the Kiowa Warrior fleet. Since the Kiowa Warrior predates current crashworthy design criteria, it has no cockpit energy absorption features in a crash situation. Energy Attenuating seats will provide increased safety to the crew in case of vertical and horizontal impacts. The design point for vertical protection will be a 30-feet-per-second dynamic vertical impact.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
FY 97 Production Contract Award		Feb-97	
FY 98 Production Contract Award		Jan-98	
FY 99 Production Contract Award		Jan-99	





Installation Schedule: Crew Seats - Safety Enhancement Program TBD-4

	FY 1996 & Prior				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				Total
Inputs		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total							
FY 1996 & Prior																																									
FY 1997		18	30	30	28																														106						
FY 1998						10	10	10	10																										40						
FY 1999										2	6	6	3																					17							
Outputs																																									
FY 1996 & Prior																																									
FY 1997						18	30	30	28																										106						
FY 1998										10	10	10	10																						40						
FY 1999														2	6	6	3																	17							
Inputs																																									
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total							
FY 2001																																									
FY 2002																																									
FY 2003																																									
Outputs																																									
FY 2000																																									
FY 2001																																									
FY 2002																																									
FY 2003																																									

Remarks: Additional 237 input/output later.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Supplemental Restraint System - Safety Enhancement Prog TBD-5	
MODELS OF SYSTEMS AFFECTED:		OH-58D Kiowa Warrior	
DESCRIPTION / JUSTIFICATION:		<p>As part of the Safety Enhancement Program, supplemental restraints are required to protect the crew in all modes of otherwise survivable accidents. Air bags will be utilized in conjunction with an Inflatable Body and Head Restraint System (IBAHRS) as well as with crashworthy crew seats to provide reasonable crew protection in all modes of flight given the mission of the aircraft.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div> <div>PLANNED</div> <div>Jul-96</div> </div>	<div> <div>ACCOMPLISHED</div> <div>Jul-96</div> </div>
FY 96 Contract Award			



Installation Schedule: Supplemental Restraint System - Safety Enhancement Prog TBD-5												
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Date	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Total
<b>Inputs</b>												
FY 1996 & Prior	1	2	3	4	1	2	3	4	1	2	3	4
FY 1997												
FY 1998												
FY 1999												
<b>Outputs</b>												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
<b>Inputs</b>												
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001												
FY 2002												
FY 2003												
<b>Outputs</b>												
FY 2000												
FY 2001												
FY 2002												
FY 2003												
<b>Remarks:</b>	Additional 400 input/output later.											





BUDGET ITEM JUSTIFICATION SHEET									
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE							
AIRCRAFT PROCUREMENT /Modification of Aircraft		EH-60 QUICKFIX MODS (AB3000)							
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY		0	0	0	0	0	0	0	0
COST (in millions)		37.1	13.9	38.1	37.3	55.8	68.5	78.0	86.1

DATE  
February 1997

#### DESCRIPTION:

QUICKFIX, EH-60A, is a tactical helicopter communications intercept, direction finding and jamming system. QUICKFIX consists of AN/ALQ-151(V)2 intercept and direction finding mission equipment, an AN/TLQ-17A communications jammer, and airborne self-protection equipment mounted in a BLACKHAWK helicopter. Four systems are currently in service with every active Army Division and Armored Cavalry Regiment (ACR). The system is used to search for, intercept, record, locate, report on and jam radio signals in the high frequency/very high frequency (HF/VHF) ranges. QUICKFIX systems interoperate with each other and the ground based TRAILBLAZER and TEAMMATE systems in a netted configuration for direction finding purposes. EH-60 QUICKFIX MODS line pays for required materiel changes to these fielded QUICKFIX systems.

Advanced QUICKFIX (AQF) is an absolute "win the battlefield information war" system. AQF, EH-60L, is a materiel change to the existing helicopter QUICKFIX system. The system provides Commanders of Division and ACRs with an organic capability to listen to, precisely locate for hard kill or order-of-battle resolution, or render ineffective through electronic attack threat conventional and Low Probability of Intercept (LPI) command and control and fire control communications nets. AQF will identify and precisely locate opposition counter/mortar and counter/battery ground surveillance radar emissions. The system is specifically designed to ensure transportability, prime mover maintainability, and mobility equal to, or greater than that of the supported divisions and regiments, while exploiting or eliminating - at the Commander's discretion - the latest, most modern types of hostile modulations and transmission techniques at the key time and place on the battlefield. The system interoperates with ground based intelligence and electronic warfare assets (Ground Based Common Sensor-Light/Heavy) to provide for emitter location accuracies sufficient for "steel on target" and to provide for line of sight extension for C3 electronic attack.

#### JUSTIFICATION:

FY 98 and FY 99 funds continue the production contract for modification of QUICKFIX into Advanced QUICKFIX (AQF) to support Department of Army's approved Operational Requirements Document. Sensor subsystems to be incorporated into AQF include: (1) TACJAM-A Electronic Support Measures (ESM) subsystem to intercept and locate conventional digital data, burst, and Low Probability of Intercept (LPI) communications; (2) TACJAM-A Electronic Countermeasures (ECM) subsystem to freeze the enemy in place by jamming command and control and fire control communications; (3) CHALS-X(M) miniaturized precision location subsystem to provide for location accuracies of communications emitters sufficient for targeting by organic artillery; and (4) Common Modules ELINT Subsystem (CMES) to identify and locate, also with targeting accuracies, hostile counter/mortar and counter/battery ground surveillance radars.



BUDGET ITEM JUSTIFICATION SHEET		DATE
APPROPRIATION / BUDGET ACTIVITY	P-1 ITEM NOMENCLATURE	February 1997
AIRCRAFT PROCUREMENT /Modification of Aircraft		EH-60 QUICKFIX MODS (AB3000)

OSIP No.	Description	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Classification	All PYs							
1-91-07-0001(1)	T701C Helicopter Engines							
Operational	33.8	0.6	0.0	0.0	0.0	6.7	13.3	3.8
1-91-07-0001(2)	External Storage Support Systems							
Operational	8.4	0.0	0.0	0.0	0.0	0.0	2.9	5.0
1-91-07-0001(3)	Advanced EH-60 Quickfix Mods							
Operational	36.6	13.3	38.1	37.3	45.2	57.2	60.7	76.6
1-91-07-0001(4)	AQF Block I Threat Upgrade							
Operational	0.0	0.0	0.0	0.0	10.6	4.6	1.1	0.7
Totals	78.8	13.9	38.1	37.3	55.8	68.5	78.0	86.1



MODIFICATION INSTALLATION SUMMARY									
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3a Set for modification</i>									
EH-60 QUICKFIX MODS									
AB3000									
T701C Helicopter Engines	0.1	0.6	0.0	0.0	0.0	0.0	0.2	0.4	1.3
External Storage Support Systems	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
Advanced EH-60 Quickfix Mods	0.0	0.0	1.1	0.0	0.8	1.1	1.1	1.2	5.3
AQF Block I Threat Update	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.7	1.8
Totals	0.6	0.6	1.1	0.0	0.8	1.1	2.4	2.4	9.0

INDIVIDUAL MODIFICATION		Date	February 1997																		
MODIFICATION TITLE:		T701C Helicopter Engines 1-91-07-0001(1)																			
MODELS OF SYSTEMS AFFECTED:																					
DESCRIPTION / JUSTIFICATION:		<p>Funds provide for the Advanced QUICKFIX BLACKHAWK Helicopter Power Train Upgrade, whereby existing helicopter engines will be replaced with T701C engines, Improved Durability Gear Boxes (IDGB) and improved Flight Controls thereby increasing lift payload capability. This upgrade is essential to provide the lift capability necessary to carry the mission equipment, ESSS and additional fuel required to increase the time on station from 2 hours to the Operational Requirements Document (ORD) requirement of 4.5 hours. Without this upgrade, the mission equipment and fuel would exceed the maximum gross takeoff weight permitted.</p>																			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="0"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>T701 HELICOPTER ENGINES</td> <td></td> <td></td> </tr> <tr> <td>PLANNED CONTRACT AWARD FY 95</td> <td>Feb-95</td> <td>Feb-95</td> </tr> <tr> <td>PLANNED CONTRACT AWARD FY 01</td> <td>Nov-00</td> <td></td> </tr> <tr> <td>FIRST KIT APPLIED</td> <td>Nov-96</td> <td></td> </tr> <tr> <td>LAST KIT APPLIED</td> <td>Aug-03</td> <td></td> </tr> </tbody> </table>			PLANNED	ACCOMPLISHED	T701 HELICOPTER ENGINES			PLANNED CONTRACT AWARD FY 95	Feb-95	Feb-95	PLANNED CONTRACT AWARD FY 01	Nov-00		FIRST KIT APPLIED	Nov-96		LAST KIT APPLIED	Aug-03	
	PLANNED	ACCOMPLISHED																			
T701 HELICOPTER ENGINES																					
PLANNED CONTRACT AWARD FY 95	Feb-95	Feb-95																			
PLANNED CONTRACT AWARD FY 01	Nov-00																				
FIRST KIT APPLIED	Nov-96																				
LAST KIT APPLIED	Aug-03																				

MODIFICATION TITLE (Cont): T701C Helicopter Engines 1-91-07-0001(1)

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	24	30.8									4	6.5	8	12.9	2	3.3	4	6.7	42	60.2
Equipment Nonrecurring		0.8																		0.8
Engineering Change Orders		1.3																		1.3
Data																				
Training Equipment																				
Support Equipment												0.2	0.2			0.1				1.3
Other		0.8																		
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	3	0.1																	3	0.1
FY 1997 Eqpt -- Kits			21	0.6															21	0.6
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits													4	0.2		0.4			4	0.2
FY 2002 Eqpt -- kits															8				8	0.4
FY 2003 Eqpt -- kits																	2	0.1	2	0.1
(FY(TC) Eqpt (xx kits)																	4	0.2	4	0.2
Total Installation Cost	3	0.1	21	0.6									4	0.2	8	0.4	6	0.3	42	1.6
Total Procurement Cost		33.8		0.6							6.7		13.3		3.8		7.0			65.2

METHOD OF IMPLEMENTATION Contractor's Facility  
 Contract Dates: FY 1997: 13 Months  
 Delivery Date: FY 1997: 21 Months  
 PRODUCTION LEADTIME: FY 1999: 21 Months  
 FY 1999:



INDIVIDUAL MODIFICATION		Date	February 1997																		
MODIFICATION TITLE:		External Storage Support Systems 1-91-07-0001(2)																			
MODELS OF SYSTEMS AFFECTED:		QUICKFIX, EH-60A, AN/ALQ-151(V)2																			
DESCRIPTION / JUSTIFICATION:		<p>Funds will procure External Storage Support Systems (ESSS) to balance the quantity of ESSSs and Engines so that there will be an equal number of complete aircraft sets. These ESSSs are required to carry enough fuel to meet the Operational Requirements Document (ORD) requirement of 4.5 hours time-on station.</p>																			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="1"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>EXTERNAL STORAGE SUPPORT SYSTEM (ESSS)</td> <td></td> <td></td> </tr> <tr> <td>PLANNED CONTRACT AWARD FY 95</td> <td>Feb-95</td> <td>Mar-95</td> </tr> <tr> <td>PLANNED CONTRACT AWARD FY 02</td> <td>Nov-01</td> <td></td> </tr> <tr> <td>FIRST KIT APPLIED</td> <td>Sep-96</td> <td></td> </tr> <tr> <td>LAST KIT APPLIED</td> <td>Jan-04</td> <td></td> </tr> </tbody> </table>			PLANNED	ACCOMPLISHED	EXTERNAL STORAGE SUPPORT SYSTEM (ESSS)			PLANNED CONTRACT AWARD FY 95	Feb-95	Mar-95	PLANNED CONTRACT AWARD FY 02	Nov-01		FIRST KIT APPLIED	Sep-96		LAST KIT APPLIED	Jan-04	
	PLANNED	ACCOMPLISHED																			
EXTERNAL STORAGE SUPPORT SYSTEM (ESSS)																					
PLANNED CONTRACT AWARD FY 95	Feb-95	Mar-95																			
PLANNED CONTRACT AWARD FY 02	Nov-01																				
FIRST KIT APPLIED	Sep-96																				
LAST KIT APPLIED	Jan-04																				

INDIVIDUAL MODIFICATION															February 1997	
MODIFICATION TITLE (Cont):															Date	
External Storage Support Systems 1-91-07-0001(2)4																
FINANCIAL PLAN: (\$ in Millions)																
FY 1996 and Prior		FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL						
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
24	7.9							5	2.9	8	4.9			37		
RDT&E																
PROCUREMENT																
Kit Quantity																
Installation Kits																
Installation Kits Nonrecurring Equipment																
Equipment Nonrecurring																
Engineering Change Orders																
Data																
Training Equipment																
Support Equipment																
Other																
Interim Contractor Support																
Installation of Hardware																
24	0.5													24		
FY 1996 & Prior Eqpt -- Kits																
FY 1997 Eqpt -- Kits																
FY 1998 Eqpt -- Kits																
FY 1999 Eqpt -- Kits																
FY 2000 Eqpt -- kits																
FY 2001 Eqpt -- kits																
FY 2002 Eqpt -- kits																
FY 2003 Eqpt -- kits																
(FY(TC) Eqpt (xx kits)																
24	0.5							5	0.1			8	0.2	5		
Total Installation Cost																
	8.4								2.9				0.2	8		
Total Procurement Cost																
METHOD OF IMPLEMENTATION																
Contractor's Facility																
Contract Dates:																
FY 1997:																
FY 1998:																
FY 1999:																
Delivery Date:																
ADMINISTRATIVE LEADTIME:																
FY 1997:																
FY 1998:																
FY 1999:																
PRODUCTION LEADTIME:																
FY 1997:																
FY 1998:																
FY 1999:																
12 Months																
14 Months																

Installation Schedule: External Storage Support Systems 1-91-07-0001(2)														
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	Total
<b>Inputs</b>														
FY 1996 & Prior		24												24
FY 1997														
FY 1998														
FY 1999														
<b>Outputs</b>														
FY 1996 & Prior		24												24
FY 1997														
FY 1998														
FY 1999														
<b>Inputs</b>														
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4	Total
FY 2001														
FY 2002														
FY 2003														
<b>Outputs</b>														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
<b>Inputs</b>														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
<b>Outputs</b>														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
<b>Remarks:</b>														

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Advanced EH-60 Quickfix Mods 1-91-07-0001(3)	
MODELS OF SYSTEMS AFFECTED:		QUICKFIX, EH-60A, AN/ALQ-151(V)3	
DESCRIPTION / JUSTIFICATION:			
FY 98 and FY 99 funds continue modification of QUICKFIX into Advanced QUICKFIX (AQF). Sensor subsystems to be incorporated into AQF include: TACJAM-A ESM and ECM; CHALS-X(M); and CMES ELINT.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
ADVANCED QUICKFIX (AQF)		PLANNED	ACCOMPLISHED
PLANNED CONTRACT AWARD		Dec-95	Nov-95 *
FIRST KIT APPLIED		Feb-98	
LAST KIT APPLIED		Dec-02	
* Due to protest, contract was on hold until Jan 96			



Advanced EH-60 Quickfix Mods 1-91-07-0001(3)

MODIFICATION TITLE (Cont):

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	3	29.5	1	2.4	3	23.2	4	33.1	6	41.5	7	50.2	8	55.2	11	71.4			43	306.5
Integration/Software Nonrecurring																				10.0
Engineering Change Orders		1.3		0.6		0.6		0.6		0.5		0.9		0.9		0.5				4.0
Data		2.2		0.3		0.5		0.5				1.0		1.0						6.4
First Article Testing																				3.8
Support Equipment																				
Other		3.3		2.9		1.8		1.3		0.7		1.5		1.0		1.0				13.5
PM Admin		0.3		0.3		0.3		0.3		0.4		0.5		0.5		0.5				3.1
Fielding						0.3		1.2		0.9		1.5		1.5		1.5				6.9
Interim Contractor Support						0.3		0.3		0.4		0.5		0.5		0.5				2.5
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits				3	0.8														3	0.8
FY 1997 Eqpt -- Kits				1	0.3														1	0.3
FY 1998 Eqpt -- Kits									3	0.8									3	0.8
FY 1999 Eqpt -- Kits											4	1.1							4	1.1
FY 2000 Eqpt -- kits													6	1.1					6	1.1
FY 2001 Eqpt -- kits															7	1.2			7	1.2
FY 2002 Eqpt -- kits																	8	1.3	8	1.3
FY 2003 Eqpt -- kits																	11	1.5	11	1.5
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost					4	1.1		37.3	3	0.8	4	1.1	6	1.1	7	1.2	19	2.8	43	8.1
Total Procurement Cost		36.6		13.3		38.1				45.2		57.2		60.7		76.6		2.8		367.8

METHOD OF IMPLEMENTATION Contractor's Facility ADMINISTRATIVE LEADTIME: 12 Months PRODUCTION LEADTIME: 26 Months  
 Contract Dates: FY 1997: Nov-96 FY 1998: Oct-97 FY 1999: Oct-98  
 Delivery Date: FY 1997: Jan-99 FY 1998: Dec-99 FY 1999: Dec-00

Installation Schedule: Advanced EH-60 Quickfix Mods 1-91-07-0001(3)

	FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				Total
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
<b>Inputs</b>																																									
FY 1996 & Prior																																							3		
FY 1997																																							1		
FY 1998																																							3		
FY 1999																																							4		
<b>Outputs</b>																																									
FY 1996 & Prior																																							3		
FY 1997																																							1		
FY 1998																																							3		
FY 1999																																							4		
<b>Inputs</b>																																									
FY 2000																																							6		
FY 2001																																							7		
FY 2002																																							8		
FY 2003																																							10		
<b>Outputs</b>																																									
FY 2000																																							6		
FY 2001																																							7		
FY 2002																																							8		
FY 2003																																							10		

Remarks:

1 installed after FY2005.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		AQF Block I Threat Update 1-91-07-0001(4)	
MODELS OF SYSTEMS AFFECTED:			
DESCRIPTION / JUSTIFICATION:		<p>FY 2000 funding will incorporate the TACJAM-A Electronic Countermeasures (ECM) subsystem into the Advanced QUICKFIX (AQF) Low Rate Initial Production (LRIP) models and upgrades the R&amp;D models.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<div> <div>PLANNED</div> <div>Nov-99</div> <div>Nov-01</div> <div>May-02</div> </div>	<div>ACCOMPLISHED</div>
<div>PLANNED CONTRACT AWARD</div> <div>FIRST KIT APPLIED</div> <div>LAST KIT APPLIED</div>			

INDIVIDUAL MODIFICATION															Date	February 97	
MODIFICATION TITLE (Cont): AQF Block I Threat Update 1-91-07-0001-(4)																	
FINANCIAL PLAN: (\$ in Millions)																	
FY 1996 and Prior		FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL							
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
RDT&E																	
PROCUREMENT																	
Kit Quantity																	
Installation Kits																	
Installation Kits Nonrecurring																	
Equipment																	
Equipment Nonrecurring																	
Engineering Change Orders																	
Data																	
Training Equipment																	
Support Equipment																	
Other																	
Interim Contractor Support																	
Installation of Hardware																	
FY 1996 & Prior Eqpt -- Kits																	
FY 1997 Eqpt -- Kits																	
FY 1998 Eqpt -- Kits																	
FY 1999 Eqpt -- Kits																	
FY 2000 Eqpt -- Kits																	
FY 2001 Eqpt -- Kits																	
FY 2002 Eqpt -- Kits																	
FY 2003 Eqpt -- Kits																	
(FY(TC) Eqpt (xx kits)																	
Total Installation Cost																	
Total Procurement Cost																	
					5	10.6	3	4.6	5	1.1	3	0.7		5	1.1	8	1.8
								4.6		1.1		0.7					17.0
METHOD OF IMPLEMENTATION Enter Method																	
Contract Dates: FY 1997:      FY 1998:      FY 1999:      PRODUCTION LEADTIME: 24 Months																	
Delivery Date: FY 1997:      FY 1998:      FY 1999:																	



BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRBORNE AVIONICS (AA0700)										
P-1 ITEM NOMENCLATURE										
AIRBORNE AVIONICS (AA0700)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		
COST (in millions)	28.9	51.5	42.9	41.6	40.9	40.8	61.1	33.6		
<p>Description: The Airborne Avionics budget line includes the Global Positioning System (GPS), the Improved Data Modem (IDM) and the Aviation Mission Planning System (AMPS). The GPS, IDM and AMPS are three of the aviation systems required to support the digitization of the battlefield. The GPS provides Army aviation with extremely accurate and secure navigation capability and assists in situational awareness and prevention of fratricide. GPS is installed in several configurations based on mission profile, operational requirements, and avionics architecture of the aircraft. The Embedded Inertial Navigation System (EGI) is used for the scout and attack helicopters. This non-developmental system is part of an Air Force led joint program which was awarded in March 94. The Lightweight Doppler Navigation System (LDNS) - AN/ASN-128B was awarded in Jul 95. IDM supports battlefield synchronization. Use of the IDM will provide the field commander with the capability for enhanced command and control, situational awareness, and operations in joint service digitized environments. The IDM will enhance digitization of the battlefield, fusion of information, system integration and access to real-time fused intelligence. This joint service program for Air Force, Army, Marine aircraft, and Army command and control platforms is a digital data link modem which exchanges targeting data between the various weapon systems in support of the following missions: suppression of enemy defenses, close air support, forward air control, air combat and command. The IDM provides four (4) half duplex radio channels with three (3) different communication ports: analog, digital, and secure digital. The IDM provides interfaces with MIL-STD 1553B, the current standard military data channel. The AMPS is a planning/battle synchronization tool that will automate aviation mission planning tasks. The system will also provide generation of mission data in either hard copy or electronic formats. The AMPS includes tactical command and control, mission planning, mission management, and maintenance management. The AMPS interfaces with the Maneuver Control System (MCS) and associated networks. This interface will furnish the aviation commander with continuous situational awareness, allowing the commander to rapidly adjust his plan to accomplish his assigned mission. The Flight Data Recorder/Digital Source Collector is intended to be a multifunction system that will provide the capability to simultaneously acquire, store, process and download safety and maintenance data and will provide a crash survivable memory unit (CSMU).</p> <p>Justification: The FY 98 and FY 99 funding provides for the installation of 142 EGI (GPS) kits on the Kiowa Warrior aircraft; procurement and modification of 758 AN/ASN-128B boxes to be integrated on the UH-60A/L aircraft and CH-47 without AN/ASN-149 systems. In addition, FY 98 and FY 99 funding provides 104 kits for the IDM on planned Force Package One airframes. FY 98 and FY 99 funds will also procure enhanced ADPE, software upgrades for 145 AMPS. Systems project management, PM administration, nonrecurring engineering, installation and other costs for GPS, IDM and AMPS are also funded during these fiscal years. The FY 98 and FY 99 funding enables the Army to comply with Public Law 103-160 (which directs the installation of GPS on all DOD aircraft by FY00), the Joint Chiefs Of Staff Master Navigation Plan (which directs that the GPS capability be applied to all military aircraft by the year 2000) and the DOD POS/NAV executive committee which directed the services to utilize GPS as a foundation to satisfy navigation requirements. Furthermore, the services are to invest in reliable, accurate, self-contained systems that satisfy unique platform mission requirements while striving for maximum standardization/commonality between the services. Tactical aircraft must have a GPS Precise Positioning Service (PPS) capability. The IDM program is in response to the need for "Digitization of the Battlefield". It supports the five (5) Army modernization objectives, i.e. project and sustain the force, protect the force, win the battlefield information war, conduct precision strikes throughout the battlefield and dominate the maneuver battle. Digitization is the solution for fusion of information. The IDM joint service application makes it particularly valuable in a threat environment. The AMPS is required to enable the Army to fully implement associated provisions of digitization. Missions and dissemination of battle plans must be electronically planned and transmitted. Manual sources for aviation plans and operations are inadequate for current warfare technology.</p>										



MODIFICATION INSTALLATION SUMMARY									
									Date
									September 1996
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
AIRBORNE AVIONICS									
AA0700									
Embedded GPS Inertial Navigation System (EGI)	0.5	0.9	0.7	0.3	0.0	0.0	0.0	0.0	2.4
Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B)	0.6	2.3	5.0	3.8	3.9	2.8	0.0	0.0	18.4
Global Positioning System (GPS) [AN/ASN-149]	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
Improved Data Modern (IDM)	0.0	0.0	0.5	0.5	0.6	0.8	0.7	1.8	4.9
Aviation Mission Planning System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Embedded GPS Inertial Navigation System (EGI) PPI	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.4	2.2
Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B) PPI	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.4	2.2
Digital Source Collector (DSC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	3.2	3.2	6.2	4.6	4.5	3.6	2.3	4.6	32.2



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Embedded GPS Inertial Navigation System (EGI)	
MODELS OF SYSTEMS AFFECTED:		Kiowa Warrior (OH-58D)	
DESCRIPTION / JUSTIFICATION:			
<p>Modification of the OH-58 aircraft to integrate an Embedded Inertial GPS Navigation system. The goal is to enhance aircraft navigation and warfighting capability to meet the JCS navigation plan by installing GPS in the fleet. GPS is one of the aviation systems required for Digitization of the Battlefield.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Contract Award (NDI)	Mar-94	Mar-94	
ECP Award, Bell Helicopter Textron International	Aug-94	Aug-94	

INDIVIDUAL MODIFICATION																	Date	February 1997		
MODIFICATION TITLE (Cont): Embedded GPS Inertial Navigation System (EGI)																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	264	18.6	86	5.8															350	24.4
Installation Kits																				
Installation Kits Nonrecurring		5.2																		5.2
Equipment		0.6																		0.6
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment		1.3		0.8		0.4		0.4												2.9
Other (includes PM/ Admin)																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt 264 Kits	76	0.5	132	0.9		0.4		0.3											264	1.8
FY 1997 Eqpt 86 Kits					56	0.4													86	0.6
FY 1998 Eqpt -- Kits					44	0.3		42												
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt kits																				
FY 2001 Eqpt kits																				
FY 2002 Eqpt kits																				
FY 2003 Eqpt kits																				
(FY(TC) Eqpt ( kits)																				
Total Installation Cost	76	0.5	132	0.9	100	0.7	42	0.3											350	2.4
Total Procurement Cost		26.2		7.5		1.1		0.7												35.5
METHOD OF IMPLEMENTATION Contractor Teams																				
Contract Dates:				ADMINISTRATIVE LEADTIME:				3 Months				PRODUCTION LEADTIME:				9 Months				
FY 1997:				Mar 97				FY 1998:				FY 1999:				FY 1999:				
FY 1997:				Apr 98				FY 1998:				FY 1999:				FY 1999:				
Delivery Date:																				

Installation Schedule: Embedded GPS Inertial Navigation System (EGI)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		
	FY 1996	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	Total
<b>Inputs</b>															
FY 1996 & Prior	76	38	38	28	28	28	28	28	22	22	22	20			264
FY 1997															86
FY 1998															
FY 1999															
<b>Outputs</b>															
FY 1996 & Prior															264
FY 1997															86
FY 1998															
FY 1999															
<b>Inputs</b>															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
<b>Outputs</b>															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
<b>Remarks:</b>															

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:      Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B)			
MODELS OF SYSTEMS AFFECTED:    Blackhawk (UH-60 A/L), Chinook (CH-47D)			
DESCRIPTION / JUSTIFICATION: <p>Modification of UH-60A/L and CH-47D aircraft is required to integrate a state of the art Global Positioning System. The goal is to enhance aircraft navigation and warfighting capability to meet the JCS navigation plan. GPS is one of the six aviation systems required for Digitization of the Battlefield. The UH-60A/L kit includes a command instrument processor (CIP). Quantities for the CH-47D configuration are: FY97-40, FY98-48, FY99-57, FY00-168, FY01-153. The six integration units being utilized for test and ECP validation are not currently scheduled for installation.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Integration Design Contract Award	Aug-93	Aug-93	
Production Contract Award	Aug-95	Aug-95	
Production Contract Award (Year II)	Dec-95	Dec-95	

INDIVIDUAL MODIFICATION													
MODIFICATION TITLE (Cont):												Date	February 1997
Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B)													

MODIFICATION TITLE (Cont):																				
Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B)																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	289	6.6	477	10.6	383	8.5	375	8.3	250	6.3									1774	40.3
Installation Kits		1.7		2.5		2.0		2.0		1.5										9.7
Installation Kits Nonrecurring Equipment		0.8																		0.8
Equipment Nonrecurring		2.8																		3.5
Engineering Change Orders		0.7																		0.7
Data																				
Training Equipment																				
Support Equipment	188	3.2	376	4.9			188	2.8	188	2.8									940	13.7
Other (includes PM/ Admin)		1.6		1.7		1.6		1.7		1.2										7.8
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt 289 Kits	60	0.6	229	2.3															289	2.9
FY 1997 Eqpt 477 Kits					477	5.0													477	5.0
FY 1998 Eqpt 383 Kits							383	3.8	375	3.9									383	3.8
FY 1999 Eqpt 375 Kits																			375	3.9
FY 2000 Eqpt 250 kits											250	2.8							250	2.8
FY 2001 Eqpt Kits																				
FY 2002 Eqpt Kits																				
FY 2003 Eqpt kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost	60	0.6	229	2.3	477	5.0	383	3.8	375	3.9	250	2.8							1774	18.4
Total Procurement Cost		18.0		22.7		17.1		18.6		15.7		2.8								94.9

METHOD OF IMPLEMENTATION Contractor Teams															
Contract Dates:				ADMINISTRATIVE LEADTIME:				1 Months				7 Months			
FY 1997: Jan 97				FY 1998: Jan 98				Jan 98				FY 1999: Jan 99			
FY 1997: Sep 97				FY 1998: Sep 98				Sep 98				FY 1999: Sep 99			
Delivery Date:				PRODUCTION LEADTIME:											

Installation Schedule: Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B)															
FY 1996				FY 1997				FY 1998				FY 1999			
& Prior				1	2	3	4	1	2	3	4	1	2	3	4
Date															
				FY 2000				FY 2001				February 1997			
FY 2001															
FY 2002															
FY 2003															
FY 2004															
FY 2005															
Total															
</															

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Global Positioning System (GPS) [AN/ASN-149]			
MODELS OF SYSTEMS AFFECTED: Chinook (CH-47D)			
DESCRIPTION / JUSTIFICATION: GPS for the CH-47D aircraft was temporarily satisfied by the installation of ground GPS receivers. This initiative will provide a permanent GPS capability for Force Package 1 aircraft. The AN/ASN-149s were previously procured for UH-60 aircraft under a GPS joint program office budget line. No additional hardware procurement is displayed. These funds will be used to remove AN/ASN-149S from UH-60 aircraft and install the items on the CH-47D airframes.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
A-Kit Non-Recurring Engineering	Apr-93	Apr-93	
A-Kit Validation/Verification	Jul-93	Jul-93	
FY 95 Installation Contract Award	Mar-95	Mar-95	
FY 96 Installation Contract Award	Feb-96	Feb-96	

INDIVIDUAL MODIFICATION													
Global Positioning System (GPS) [AN/ASN-149]													
MODIFICATION TITLE (Cont):													
FINANCIAL PLAN: (\$ in Millions)													
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		TOTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty
RDT&E													
PROCUREMENT													
Kit Quantity													
Installation Kits													
Installation Kits Nonrecurring Equipment													
Equipment Nonrecurring													
Engineering Change Orders													
Data													
Training Equipment													
Support Equipment													
Other (includes PM/ Admin)													
Interim Contractor Support													
Installation of Hardware													
FY 1996 & Prior Eqpt 205 Kits	205	2.1											205 2.1
FY 1997 Eqpt -- Kits													
FY 1998 Eqpt -- Kits													
FY 1999 Eqpt -- Kits													
FY 2000 Eqpt -- kits													
FY 2001 Eqpt -- kits													
FY 2002 Eqpt -- kits													
FY 2003 Eqpt -- kits													
(FY(TC) Eqpt (xx kits)													
Total Installation Cost	205	2.1											205 2.1
Total Procurement Cost		2.1											2.1
METHOD OF IMPLEMENTATION Contractor Teams													
Contract Dates: FY 1997: N/A													
Delivery Date: FY 1997: N/A													
ADMINISTRATIVE LEADTIME: N/A													
PRODUCTION LEADTIME: N/A													
FY 1998: N/A													
FY 1999: N/A													



Installation Schedule: Global Positioning System (GPS) [AN/ASN-149]

FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
<b>Inputs</b>													
FY 1996 & Prior	205												
FY 1997													
FY 1998													
FY 1999													
<b>Outputs</b>													
FY 1996 & Prior	205												
FY 1997													
FY 1998													
FY 1999													
<b>Inputs</b>													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
<b>Outputs</b>													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Remarks:</b>													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Improved Data Modem (IDM)		
MODELS OF SYSTEMS AFFECTED:	IDM MD-1295/A; Aircraft: Longbow (AH-64D), Kiowa Warrior (OH-58D), Special Operations Aircraft (MH-47E/MH-60E), Aviation ground/operations centers		
DESCRIPTION / JUSTIFICATION:	<p>Improved Data Modem (IDM) is one of the aviation programs in response to the need for Digitization of the Battlefield. Its use will provide the field commander with the capability for enhanced command and control, situational awareness and enhanced operations in joint service digitized environments. IDM is a joint-service program with installation on air force, army and marine aircraft and command and control platforms. The IDM is a digital data link modem which exchanges targeting data between the various weapons systems in support of the following missions: suppression of enemy air defenses, close air support, forward air control, air combat and command control. The IDM provides four (4) half duplex radio channels with three (3) different communication ports: analog, digital and secure digital. The IDM will enable the army to maintain capabilities to gather, process and transmit information to all areas of the battlefield.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Exercise Air Force Production Contract Options		PLANNED	ACCOMPLISHED
		Apr-96	Apr-96
Non-Recurring System Integration		Mar-96	Mar-96

INDIVIDUAL MODIFICATION																					Date	February 1997						
MODIFICATION TITLE (Cont): Improved Data Modem (IDM)																												
FINANCIAL PLAN: (\$ in Millions)																												
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL											
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$										
RDT&E																												
PROCUREMENT																												
Kit Quantity	115	3.5	68	2.6	53	2.0	51	2.0	55	2.2	83	3.4	400	14.0	203	8.6	250	10.6	1278	48.9								
Installation Kits			71	0.8	67	0.4	38	0.4	34	0.5	31	0.4	80	1.2	78	1.2			399	4.9								
Installation Kits Nonrecurring Equipment		2.1		3.2		1.3		1.3												7.9								
Equipment Nonrecurring		2.6		0.1		0.6				0.8		0.6		1.1		0.8		1.0		0.1								
Engineering Change Orders		0.6		1.5		8.1		6.4		5.0		4.5		3.2		3.2		4.0		9.0								
Data				2.5																37.5								
Training Equipment																												
Support Equipment		0.1				0.1		0.1		0.1		0.1		0.1		2.3		1.0		1.6								
Other (includes PM/ADMIN)		2.8		2.9		2.8		1.6		3.0		1.9		3.3				3.0		23.6								
Interim Contractor Support																												
Installation of Hardware																												
FY 1996 & Prior Eqpt Kit																			26	0.5								
FY 1997 Eqpt Kits																			23	0.5								
FY 1998 Eqpt 26 Kits																			31	0.6								
FY 1999 Eqpt 23 Kits																			34	0.8								
FY 2000 Eqpt 31 kits					26	0.5				0.6									31	0.7								
FY 2001 Eqpt 34 kits																			80	1.8								
FY 2002 Eqpt 31 kits																			78	1.9								
FY 2003 Eqpt 80 kits																			303	6.8								
(FY/TC) Eqpt (78 kits)																												
Total Installation Cost					26	0.5	23	0.5	31	0.6	34	0.8	31	0.7	80	1.8	78	1.9										
Total Procurement Cost		11.7		13.6		15.8		12.3		12.2		11.7		23.6		17.9		21.5		140.3								
METHOD OF IMPLEMENTATION Contractor Teams																					ADMINISTRATIVE LEADTIME:		2 Months		PRODUCTION LEADTIME:		15 Months	
Contract Dates:																					FY 1997: Apr 97		Dec 97		FY 1999: Dec 98			
Delivery Date:																					FY 1997: Jul 98		Mar 99		FY 1999: Mar 00			

Installation Schedule: Improved Data Modern (IDM)

	FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total
Inputs																					
FY 1996 & Prior																					26
FY 1997																					23
FY 1998																					
FY 1999																					
Outputs																					
FY 1996 & Prior																					26
FY 1997																					23
FY 1998																					
FY 1999																					
Inputs																					
FY 2000																					31
FY 2001																					34
FY 2002																					31
FY 2003																					80
Outputs																					
FY 2000																					31
FY 2001																					34
FY 2002																					31
FY 2003																					80
Installation will be accomplished on the Kiowa Warrior aircraft only. IDMs for Longbow will be incorporated on the Longbow production line. The IDMs for SOA aircraft will be installed by the SOA funded contract logistic services (CLS) contractors. SOA: 96 A&B kits. Kiowa Warrior: 303 A kits, 373 B kits (70 B kits production incorporated). Longbow: 758 B-kits production incorporated. Ground Stations/Aviation operations - 51 B kits. 78 kits installed later.																					

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Aviation Mission Planning System 1-95-01-2185			
MODELS OF SYSTEMS AFFECTED: Kiowa Warrior (OH-58D); Blackhawk (UH-60 A/L); Chinook (CH-47D); Longbow (AH-64D/AH-64 Modernization)			
DESCRIPTION / JUSTIFICATION: Provides for state-of-the-art tactical automated data processing equipment, peripheral equipment, testing, software changes/updates, required to bring the current AMPS configuration to the required operational capability. Since the airframes have the data receptacles/busses required to interface with AMPS there is no installation cost.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Material Change Approval	Mar-95	Mar-95	
In-Process Review	Aug-95	Aug-95	
In-Process Review	Dec-98		
Material Release	Mar-99		

INDIVIDUAL MODIFICATION																	Date	February 1997
MODIFICATION TITLE (Cont): Aviation Mission Planning System 1-95-01-2185																		
FINANCIAL PLAN: (\$ in Millions)																		
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																		
PROCUREMENT																		
Kit Quantity	70	2.4	24	0.8	78	2.5	67	2.2	126	4.0	112	3.6	102	3.3			579	18.8
Installation Kits																		
Installation Kits Nonrecurring																		
Equipment		2.6		1.1		1.5		2.5										7.7
Equipment Nonrecurring																		
Engineering Change Orders		0.9		3.8		4.4		4.2		4.8		4.9		3.5				26.5
Data																		
Training Equipment																		
Support Equipment																		
Other (Includes PM/ Admin)		0.6		0.8		0.5		0.9		1.0		1.0		0.6				5.4
Interim Contractor Support																		
Installation of Hardware																		
FY 1996 & Prior Eqpt -- Kits																		
FY 1997 Eqpt -- Kits																		
FY 1998 Eqpt -- Kits																		
FY 1999 Eqpt -- Kits																		
FY 2000 Eqpt -- kits																		
FY 2001 Eqpt -- kits																		
FY 2002 Eqpt -- kits																		
FY 2003 Eqpt -- kits																		
(FY(TC) Eqpt (xx kits)																		
Total Installation Cost																		
Total Procurement Cost		6.5		6.5		8.9		9.8		9.8		9.5		7.4				58.4
METHOD OF IMPLEMENTATION Contractor Team																		
Contract Dates:			FY 1997: Jan 97		FY 1998: Jan 98		FY 1999: Jan 99		FY 2000: Jan 98		FY 2001: Jan 98		FY 2002: Jan 98		FY 2003: Jan 99		5 Months	
Delivery Date:			FY 1997: Aug 97		FY 1998: Aug 98		FY 1999: Aug 99		FY 2000: Aug 98		FY 2001: Aug 98		FY 2002: Aug 98		FY 2003: Aug 99		5 Months	



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Embedded GPS Inertial Navigation System (EGI) PPP I	
MODELS OF SYSTEMS AFFECTED:		Kiowa Warrior (OH-58D), Apache A+ (AH-64A+), Longbow (AH-64D), Special Operations Aircraft (SOA)	
DESCRIPTION / JUSTIFICATION:			
GPS is one of the aviation systems required for Digitization of the Battlefield. FY 2000 starts the procurement of the GPS EGI Preplanned Product Improvement (PPPI) interchangeable module in accordance with NAVWARFARE integrated product team for KIOWA WARRIOR (OH-58D), APACHE A+ (AH-64A+), LONGBOW (AH-64D), Special Operations Aircraft (SOA).			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
Contract Award (ECP)		Nov-99	
Production Contract Award		Apr-00	



INDIVIDUAL MODIFICATION																			Date		February 1997							
MODIFICATION TITLE (Cont):																			Embedded GPS Inertial Navigation System (EGI) PPP I									
FINANCIAL PLAN: (\$ in Millions)																												
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL									
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$								
RDT&E																												
PROCUREMENT																												
Kit Quantity											525	7.6	898	12.3	400	5.8	176	2.5	1999	28.2								
Installation Kits																												
Installation Kits Nonrecurring																												
Equipment																												
Equipment Nonrecurring																												
Engineering Change Orders																												
Data																												
Training Equipment																												
Support Equipment																												
Other (includes PM/ Admin)																												
Interim Contractor Support																												
Installation of Hardware																												
FY 1996 & Prior Eqpt 264 Kits																												
FY 1997 Eqpt 86 Kits																												
FY 1998 Eqpt -- Kits																												
FY 1999 Eqpt -- Kits																												
FY 2000 Eqpt 100 kits																												
FY 2001 Eqpt 525 kits													525	0.8					525	0.8								
FY 2002 Eqpt 898 kits															898	1.4			898	1.4								
FY 2003 Eqpt 400 kits																	400	0.6	400	0.6								
(FY(TC) Eqpt 176 kits																	176	0.3	176	0.3								
Total Installation Cost													525	0.8	898	1.4	576	0.9	1999	3.1								
Total Procurement Cost								0.1		2.0		8.5	14.9		7.9		4.1			37.5								

METHOD OF IMPLEMENTATION Contractor Teams			ADMINISTRATIVE LEADTIME:			1 Months			PRODUCTION LEADTIME:			6 Months		
Contract Dates:			FY 1997:			FY 1998:			FY 1999:			FY 1999:		
Delivery Date:			FY 1997:			FY 1998:			FY 1999:			FY 1999:		

METHOD OF IMPLEMENTATION Contractor Teams  
 Contract Dates: FY 1997:      FY 1998:      FY 1999:  
 Delivery Date: FY 1997:      FY 1998:      FY 1999:

ADMINISTRATIVE LEADTIME: 1 Months      PRODUCTION LEADTIME: 6 Months  
 FY 1998:      FY 1999:      FY 1999:

Installation Schedule: Embedded GPS Inertial Navigation System (EGI) PPP I													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
FY 2000													
1	2	3	4	1	2	3	4	1	2	3	4	1	2
FY 2001													
FY 2002													
FY 2003													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													
176 installed later.													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B) PPP I			
MODELS OF SYSTEMS AFFECTED: Blackhawk (UH-60 A/L), Chinook (CH-47D)			
DESCRIPTION / JUSTIFICATION: GPS is one of the six aviation systems required for Digitization of the Battlefield. FY 2000 starts the procurement of the AN/ASN-128B/LDNS Preplanned Product Improvement (PPPI) interchangeable module in accordance with NAVWARFARE integrated product team.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Contract Award (ECP)	Dec-99		
Production Contract Award	Apr-97		



Installation Schedule: Lightweight Doppler Navigation Sys(LDNS) (AN/ASN-128B) PPP I																				
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																				
FY 1996 & Prior																				
FY 1997																				
FY 1998																				
FY 1999																				
Outputs																				
FY 1996 & Prior																				
FY 1997																				
FY 1998																				
FY 1999																				

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Flight Data Recorder/Digital Source Collector (DSC)	
MODELS OF SYSTEMS AFFECTED:		Kiowa Warrior (OH-58D); Blackhawk (UH-60 A/L); Chinook (CH-47D); Longbow (AH-64D/AH-64 Modernization)	
DESCRIPTION / JUSTIFICATION:		<p>The Flight Data Recorder/Digital Source Collector is intended to be a multifunction system that will provide the capability to simultaneously acquire, store, process and download safety and maintenance data. The DSC will provide a crash survivable memory unit (CSMU).</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<u>PLANNED</u>	<u>ACCOMPLISHED</u>
Non-Recurring Engineering		Jun-97	



Installation Schedule: Flight Data Recorder/Digital Source Collector (DSC)													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1
<b>Inputs</b>													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
<b>Outputs</b>													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Outputs</b>													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Remarks:</b>													
Not applicable.													

Remarks:	Not applicable.
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BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1987
AIRCRAFT PROCUREMENT / Modification of Aircraft										
P-1 ITEM NOMENCLATURE										ASE MODS (AA0720)
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		0
COST (in millions)	12.9	25.8	4.6	3.9	12.0	22.6	18.0	15.4		

**DESCRIPTION:**

ASE modifications provides funding for Aircraft Survivability Equipment (ASE) upgrades by incorporation of latest state-of-the-art technology needed to meet current and emerging threats. Modular upgrades are applied in lieu of new developments to obtain the most cost effective improved systems. Modifications to current systems will sustain and protect the forces, conduct precision strikes, and dominate the maneuver battle. Installing ASE items on aircraft systems improves their threat defeating capabilities. This budget item rolls up four modification efforts that test, procure and install A-Kits on Army airframes.

**JUSTIFICATION:** FY98 and FY99 funding will be used for:

A. AN/AVR-2A(V) Laser Detecting Set (LDS) A-Kits for AH-64 aircraft. The LDS will increase the reliability and operational effectiveness of the AH-64 on the modern battlefield. FY98 funding completes installation of A-Kit on the AH-64 (APACHE) aircraft and installs previously procured B-Kits.

B. AN/ALQ-144A Infrared Countermeasure Sets (IRCMS) A-Kits on OH-58D aircraft. The aircraft will be less susceptible to infrared acquisition and guided munitions. A total of 97 kits must be installed in order to meet the production schedule of the OH-58D and previously procured ALQ-144A B-Kits. FY98 funding completes installation of A-Kits on the OH-58D.

C. AN/ALQ-211 Suite of Integrated Radio Frequency Countermeasures (SIRFC) for the AH-64D aircraft. The AH-64D requires additional capabilities to detect and defeat air and ground radar frequency (RF) missiles and to provide situational awareness to the pilot. The improvements needed will be satisfied by SIRFC. FY98 and FY99 funds are required for nonrecurring engineering for the integration program. This system was previously referred to as the Advanced Threat Radar Jammer (ATRJ) and the new nomenclature was approved July 1996.

D. Advanced Threat Infrared Countermeasures/Common Missile Warning System (ATIRCM/CMWS). The ATIRCM/CMWS is the core of the Suite of Integrated Infrared Countermeasures. This suite will provide active and passive infrared countermeasures (IRCM) protection against infrared guided weapons. The system is applicable to the AH-64D, MH-47D/E, MH-60K/L, EH-60, UH-60, and CH-47D aircraft. FY99 funds are required to initiate the procurement of the A-Kits for the Special Operations Aircraft.

BUDGET ITEM JUSTIFICATION SHEET		DATE
APPROPRIATION / BUDGET ACTIVITY	P-1 ITEM NOMENCLATURE	February 1997
AIRCRAFT PROCUREMENT / Modification of Aircraft		ASE MODS (AA0720)

[illegible]

MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	PY & FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
ASE MODS									
AA0720									
Laser Detecting Set-AN/AVR-2A(V)/AH-64	0.0	3.2	1.8	0.0	0.0	0.0	0.0	0.0	5.0
Infrared Countermeasures Set-AN/ALQ-144A/OH-58D	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.5
AN/ALQ-211 Suite of Integrated Radio Frequency CMS (SIRFC)	0.0	0.0	0.0	0.0	0.0	1.3	3.2	0.0	4.5
Adv Threat Infrared Countermeasures (ATIRCM)	0.0	0.0	0.0	0.0	0.0	1.7	2.2	3.1	7.0
Totals	0.3	3.3	1.9	0.0	0.0	3.0	5.4	3.1	17.0

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Laser Detecting Set-AN/AVR-2A(V)/AH-64 1-92-01-2182	
MODELS OF SYSTEMS AFFECTED:		AH-64	
DESCRIPTION / JUSTIFICATION:			
<p>The AN/AVR-2A(V) Laser Detecting Set (LDS) consists of two dual sensor units and an infrared unit comparator. The system interfaces with the AN/APR-39 radar detecting set, and utilizes the AN/APR-39 signal comparator and control unit to function as an integrated radar and laser detecting set system. The laser sensor units detect laser energy and converts it to electrical signals. These signals are processed, formatted and sent to the comparator as digital word messages. The comparator further processes the data and forwards this threat information to be displayed on the AN/APR-39 signal indicator inside the cockpit, at the same time, an audio tone alerts the crew. Materiel change (MC) estimates include the following - procurement of hardware, retrofit for aircraft and project management cost. In addition, technical manual changes, retrofit kit data and the modification work order (MWO) will also be provided by the contractor. This procurement equals current requirements for installation kits for 346 APACHE aircraft. LONGBOW A-Kits will be installed as part of the LONGBOW development effort. Funding for B-kits will procure an additional 50 AN/AVR-2A(V) LDS for APACHE LONGBOW platform.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Engineering Change Proposal (ECP) Development Award	PLANNED	ACCOMPLISHED	
ECP Approval	Oct-92	Oct-92	
PY A-Kit Production Contract Award	May-95	May-95	
PY A-Kit Production Hardware Delivery	May-95	May-95	
FY 97 A-Kit Production Contract Award	Mar-97		
FY 97 A-Kit Production Hardware Delivery	Mar-97		
B-Kit Production Contract (Option) Award (For Longbow Production Line)	Jan-98		
B-Kit Hardware Delivery (For Longbow Production Line)	Mar-97		
	Jan-99		

INDIVIDUAL MODIFICATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Infrared Countermeasures Set-AN/ALQ-144A/OH-58D 1-92-01-2181	
MODELS OF SYSTEMS AFFECTED:		OH-58D	
DESCRIPTION / JUSTIFICATION:			
<p>The AN/ALQ-144A Infrared Countermeasures Set is designed to confuse or decoy threat infrared (IR) missile systems. The purpose of this materiel change (MC) is the installation of the A-Kit on the fleet. This MC provides for the aircraft modification/A-Kit to accept the AN/ALQ-144A system. The milestones relate to the installation of the aircraft A-Kit hardware.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Installation of Hardware FY 95	Jul-95	Jul-95	
Installation of Hardware FY 96	Oct-95	Oct-95	
Installation of Hardware FY 97	Mar-97		
Installation of Hardware FY 98	Mar-98		

INDIVIDUAL MODIFICATION																
MODIFICATION TITLE (Cont): Infrared Countermeasures Set-AN/ALQ-144A/OH-58D 1-92-01-2181																
FINANCIAL PLAN: (\$ in Millions)																
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																
PROCUREMENT																
Kit Quantity	385	2.0													385	2.0
Installation Kits																
Installation Kits Nonrecurring Equipment																
Equipment Nonrecurring																
Engineering Change Orders																
Data																
Training Equipment																
Support Equipment																
Other																
Interim Contractor Support																
Installation of Hardware																
FY 1996 & Prior Eqpt -- Kits	288	0.3	56	0.1	41	0.1									385	0.5
FY 1997 Eqpt -- Kits																
FY 1998 Eqpt -- Kits																
FY 1999 Eqpt -- Kits																
FY 2000 Eqpt -- kits																
FY 2001 Eqpt -- kits																
FY 2002 Eqpt -- kits																
FY 2003 Eqpt -- kits																
(FY(TC) Eqpt (xx kits)																
Total Installation Cost	288	0.3	56	0.1	41	0.1									385	0.5
Total Procurement Cost		2.3		0.1		0.1										2.5
METHOD OF IMPLEMENTATION Contract/Depot Teams ADMINISTRATIVE LEADTIME: Months PRODUCTION LEADTIME: Months																
Contract Dates: FY 1997: FY 1998: FY 1999:																
Delivery Date: FY 1997: FY 1998: FY 1999:																





INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE:	Suite of Integrated Radio Frequency Countermeasures/AH-64D 1-95-01-2187	February 1997
MODELS OF SYSTEMS AFFECTED:	AH-64D	
DESCRIPTION / JUSTIFICATION:	<p>The AH-64D requires additional capabilities to detect and defeat air and ground launched radar frequency (RF) missiles. The improvements needed will be satisfied by the Suite of Integrated Radio Frequency Countermeasures (SIRFC). This system is identified in the ASE/APACHE requirements documents and will improve aircraft survivability and mission accomplishment. The protection of the AH-64D against Air Defense Artillery (ADA) threats is one of the most important considerations due to the aircraft's mission profile.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
	PLANNED	ACCOMPLISHED
Engineering Change Proposal (ECP) Development Award	Apr-96	Apr-96
ECP Approval	Jul-99	
Production Contract Award	Jan-00	
Production Hardware Delivery	Jun-01	
First Kit Applied	Jul-01	





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Advanced Threat Infrared Countermeasures (ATIRCM) TBD	
MODELS OF SYSTEMS AFFECTED:		AH-64D, MH-47D/E, MH-60K/L, EH-60, UH-60, OH-58D, CH-47D	
DESCRIPTION / JUSTIFICATION:			
<p>The ATIRCM is a requirement for current generation Army aircraft. The ATIRCM/CMWS is one system which is the core of a Suite of Integrated Infrared Countermeasures (SIIRCM). This Suite will provide active and passive infrared countermeasures (IRCM) protection against infrared guided weapons. The system is designed to meet operational requirements for a modular IRCM system capable of providing awareness and self protection jamming countermeasures. The system is applicable to AH-64D, MH-47D/E, MH-60K/L, EH-60, UH-60, OH-58D and CH-47D aircraft. The program has been designated a tri-service program, with application to Air Force and Navy aircraft. FY 99 funds are required to initiate procurement of Army ATIRCM/CMWS A-Kits for the Special Operations Aircraft.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Milestone I/II	Jun-95	Jun-95	
EMD Contract Award	Sep-95	Sep-95	
System Design Review	Mar-96	Mar-96	
Preliminary Design Review	Jun-96	Jun-96	
Critical Design Review	Feb-97		
Contract Award	Dec-99		
Production Hardware Delivery	Apr-01		
First Kit Applied	May-01		



Installation Schedule: Advanced Threat Infrared Countermeasures (ATIRCM) TBD													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
<b>Inputs</b>													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
<b>Outputs</b>													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
<b>Inputs</b>													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001		7	7			4	4	4	5				
FY 2002										5	6	6	6
FY 2003										8	8	8	8
<b>Outputs</b>													
FY 2000						7	7						
FY 2001										4	4	4	5
FY 2002													
FY 2003													
<b>Remarks:</b>		Additional 961 kits bought and installed after FY2003.											
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Total</b>													

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT Modification of Aircraft		P-1 ITEM NOMENCLATURE									
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY		0	0	0	0	0	0	0	0		
COST (in millions)		2.3	1.8	1.7	1.7	0.0	0.0	0.0	0.0		
<p><b>DESCRIPTION:</b> This modification line updates and modernizes the C-12 aircraft communication, navigation and flight management equipment to current international standards in order to standardize the fleet, allow worldwide deployments, and upgrade capability for continued safe operations into the 21st Century.</p> <p><b>JUSTIFICATION:</b> FY 98 and FY 99 will provide funding for the C-12 avionics upgrade. The majority of the Army C-12 aircraft were purchased between 1971 and 1989 and were equipped with then current avionics and navigation equipment. Current Army modernization plans will retain the C-12 fleet in active service beyond 2017. Worldwide deployments using modern navigation and air traffic control facilities beyond the year 2000 are required. During deployments in support of Desert Storm/Desert Shield/Provide Comfort, only selected aircraft with non-standard modifications were capable of being deployed to and within the theater. Elimination of obsolete communication and navigation systems will enhance reliability and maintainability by employing current commercial systems thereby improving C-12 availability and cockpit standardization.</p>											





MODIFICATION INSTALLATION SUMMARY									
Date									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996								
No P3a Set for modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
MODIFICATIONS < \$2.0M									
AA0725									
Engine Trend Monitor System	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Avionics System Cockpit Upgrade - Group I	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.4
Totals	0.8	0.2	0.1	0.1	0.0	0.0	0.0	0.0	1.2

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Avionics System Cockpit Upgrade - Group I 1-96-01-0611			
MODELS OF SYSTEMS AFFECTED: C-12C, D, F, L and R			
DESCRIPTION / JUSTIFICATION: <p>This effort will update and modernize C-12 communications, navigation, and flight direction equipment to current international standards to standardize the fleet, allow worldwide deployments and upgrade capability for continued safe operations into the 21st Century. As currently equipped, the aircraft are not suitable for worldwide deployment nor capable of using modern navigation and air traffic control facilities. The following equipment is included in this upgrade: Engine instruments, Traffic Collision Avoidance Systems, and Army Engine Trend Monitor System Upgrades. The quantities procured and installed will vary depending on the requirements for each individual aircraft.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Production Contract Award	PLANNED	2Q97	ACCOMPLISHED
Production Delivery Starts	2Q97		
Kit Application Starts	2Q97		
Kit Application Completed	4Q99		





BUDGET ITEM JUSTIFICATION SHEET									
APPROPRIATION / BUDGET ACTIVITY		DATE		P-1 ITEM NOMENCLATURE					
AIRCRAFT PROCUREMENT /Spares and Repair Part		February 1997		SPARE PARTS (AIR) (AA0950)					
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
QUANTITY	0	0	0	0	0	0	0	0	
COST (in millions)	28.1	41.1	27.5	33.3	18.4	19.3	27.2	32.7	
<p>Description: Provides for procurement of spares to support initial fielding of new or modified end items.</p> <p>Justification: The funds in this account procure depot level repairable (DLRs) secondary items from the Supply Management, Army business area of the Defense Business Operations Fund. To provide initial support, funds are normally required in the same year that end items are fielded. Initial spares breakout:</p>									
System	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
ASE	5.4	.6	.6	.6	.6				
Helicopter, Utility, UH-60	8.6	6.5	2.5	2.0					
Guardrail, Common Sensor	4.7	11.4	.8						
Guardrail Mods (TIARA)	.4	5.7	3.4	3.2					
Helicopter, Electronic, EH-60		2.3	3.7	.8					
Helicopter, OH-58D	6.5	1.4							
ANVIS (Night Vision Goggles)	.9								
Avionics	1.6	3.1	3.0	4.2					
Longbow		10.1	13.5	22.5					
Totals	28.1	41.1	27.5	33.3					

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
P-1 ITEM NOMENCLATURE										
AIRCRAFT PROCUREMENT /4/Support Equipment and Facilities										
AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		0
COST (in millions)	50.1	0.4	0.9	34.4	46.2	41.6	100.7	104.1		

**DESCRIPTION:**

Aircraft Survivability Equipment (ASE) provides self protection, both active and passive, against anti-aircraft systems. The ASE program enables the Army tactical aircraft fleet to accomplish its mission on the modern battlefield by enhancing aircraft and aircrew survivability. The program is structured to procure and field the required ASE to effectively combine tactics with passive devices, active devices, and vulnerability reduction items so that Army aviation will be able to operate as intended in support of Army land battle operations in spite of modern anti-aircraft threats. Individual ASE items are generic systems, which are adapted to various aircraft. ASE CORE programs provide for priority aircraft units to receive tailored ASE suites.

ASE includes radar, infrared, and electro-optical (EO) countermeasure devices. To ensure that all aircraft have the ability to detect and defeat threat anti-aircraft systems, each airframe within the fleet is equipped or provisioned with a combination of devices based on mission requirements, space, weight, and power. Current and future acquisitions are programmed to keep pace as threat capabilities improve. ASE will sustain and protect the forces, conduct precision strikes, dominate the maneuver battle, and improve aircraft threat capabilities.

**JUSTIFICATION:** FY 98 funds provide resources for ASE project management administration and fielding of ASE systems. FY99 funds provide resources for Advanced Threat Infrared Countermeasures (ATIRCM) and Suite of Integrated Radio Frequency Countermeasures (SIRFC) initial production programs.

Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON Aircraft Survivability Equipment (AZ3504)				C. MANUFACTURER NAME				D. DATE February 1997			
ID	CD	Aircraft Cost Elements	FY 96			FY 97			FY 98			FY 99			TotalCost	UnitCost	UnitCost
			TotalCost	Qty	Each	TotalCost	Qty	Each	TotalCost	Qty	Each	TotalCost	Qty	Each			
			\$000			\$000			\$000			\$000			\$000		\$000
1.	A	<b>AZ3506 - ASE Warning Receivers</b>															
		AN/APR-39A(V)1 Radar Signal Detecting Set	445														
		Government In-House Support															
	A	<b>AN/APR-39A(V)2 Radar Signal Detecting Set</b>	3700														
		Nonrecurring Engineering	355														
		Government In-House Support															
	A	<b>AN/APR-48A Radar Interferometer</b>	3300														
		Nonrecurring Engineering/Tooling															
	A	<b>AN/AVR-2A(V) Laser Detecting Set</b>	600														
		Government In-House Support															
		Project Management Support & Fielding	4916			436			905								
		of ASE Systems															
		ASE Integration Program	2653														
		<b>SUBTOTAL - ASE WARNING RECEIVERS</b>	15969			436			905								
2.	B	<b>AZ3507 - ASE INFRARED CMS</b>															
		Advanced Threat Infrared Countermeasures															
		Nonrecurring Engineering													9248		
		Recurring Engineering													575		
		Engineering Changes													343		
		Project Management													204		
		Data													264		
		<b>SUBTOTAL - ASE INFRARED CMS</b>													10634		
3.	B	<b>AZ3508 - ASE RADAR CMS</b>															
		Suite of Integrated Radio Freq CMS (SIRFC)															
		SIRFC Systems															
		Nonrecurring Engineering													17023		1064
		Recurring Engineering													2494		
		Engineering Change Orders													347		
		Project Management													740		
		Data													1039		
		System Test and Evaluation													485		
		<b>SUBTOTAL - ASE RADAR CMS</b>													1650		
															23778		



Aircraft Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			B. WEAPON AIRCRAFT SURVIVABILITY EQUIPMENT (AZ3504)			C. MANUFACTURER NAME			D. DATE February 1997		
ID	CD	Aircraft Cost Elements	FY 96			FY 97			FY 98			FY 99		
			TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
4.		<b>AZ5700 - ASE TRAINING DEVICES</b>												
		AN/TPQ-45 (ASET IV) Threat Generator												
	A	AN/TPQ-45 Systems	24300	3	8100									
		Project Management	1000											
		Prototype Refurbishment	3000											
		MILES/Night Vision	2000											
		Nonrecurring Engineering	3840											
		<b>SUBTOTAL - ASE TRAINING DEVICES</b>	<b>34140</b>											
		<b>SUBTOTAL - ASE</b>	<b>50109</b>			436			905			34412		
		Initial SPARES	5407			599			588			600		
		<b>SUBTOTAL - ASE INITIAL SPARES</b>	<b>5407</b>			<b>599</b>			<b>588</b>			<b>600</b>		
		<b>TOTAL</b>	<b>55516</b>			<b>1035</b>			<b>1493</b>			<b>35012</b>		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities										
C. P-1 ITEM NOMENCLATURE										
Aircraft Survivability Equipment (AZ3508)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPECS REV REC'D	IF YES W/A
1. AN/ALQ-211 SIRFC										
FY99	ITT, Clifton, NJ	SS-FPI	CECOM	Jul-99	Jan-01	16	1064	YES	NO	
REMARKS:										

Simulator and Training Device Justification										Date
Appropriation / P-1 Line Item		Weapon System (if applicable)					Equipment Nomenclature			Date
AIRCRAFT PROCUREMENT/ASE TRAINING DEVICES							AN/TPQ-45 (Aircraft Survivability Equipment Trainer (ASET IV)) (AZ5700)			February 1997
Fin Plan	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	PE	
Quantity (Each)	3								64270A	
Proc (\$000)	34140								Total	
RDT&E (\$000)									34140	
O&S (\$000)										

**TRAINING SYSTEM DESCRIPTION:**

The AN/TPQ-45 consists of ground based mobile threat emitters. These emitters simulate infrared and radar frequency defense systems (SA-7/14, SA-9/13, ZSU-23-4, SA-8 AND C3). ASET IV represents the culmination of aircraft survivability equipment (ASE) training providing realism under the "train as you fight" concept. An aviator flying against the ASET IV must have a full up operational ASE suite on his aircraft along with the knowledge of how to employ aircraft survivability equipment and tactics to survive. The ASET IV module is integrated with the Operational Forces (OPFOR) at the National Training Center (NTC) to allow for realistic force on force training exercises.

## Simulator and Training Device Justification (Page 2)

Simulator and Training Device Justification (Page 2)											Date	
Appropriation / P-1 Line Item		Weapon System (if applicable)			IOC Date		Equipment Nomenclature				February 1997	
AIRCRAFT PROCUREMENT/ASE TRAINING DEVICES							AN/TPQ-45 (Aircraft Survivability Equipment Trainer (ASET IV)) (AZ5700)				64270A	
Training Device By Type	Site	Del. Date	Ready For Trng Date	Avg Student Thruput	FY 1996		FY 1997		FY 1998		FY 1999	
					Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
					Each	\$000	Each	\$000	Each	\$000	Each	\$000
Operator/Trainer CPT-1	III CORPS/FT. Hood	Aug-97	Sep-97	432	1	8100						
Operator/Trainer CPT-2	XVIII CORPS/FT. Bragg	Oct-97	Nov-97	432	1	8100						
Operator/Trainer CPT-3	I CORPS/Ft. Campbell	Dec-97	Jan-98	432	1	8100						
Nonrecurring Engrg; P.M.; Prototype Refurb; MILES/Night Vision						9840						

Simulator and Training Device Justification (Page 3)										DATE		February 1997	
Training Device By Type		Weapon System (if applicable)											
AN/TPQ-45 (ASET IV)													
Description / Justification		The AN/TPQ-45 consists of ground based mobile threat emitters. The ASET IV module will be integrated with the Operational Forces (OPFOR) at the National Training Center (NTC) to allow for realistic force on force training exercises. A total of three each ASET IV is required in FY96 to complete the requirement for this item.											
Financial Plan	Prior Years		FY 1996		FY 1997		FY 1998		Cost To Complete		Total Cost		
	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	Qty	Cost \$000	
<b>HARDWARE COSTS</b>													
Device (hardware)	4	26000	3	24300							7	50300	
Nonrecurring		13287		3840								17127	
Other:													
Project Management		4000		1000								5000	
Prototype Refurbishment				3000								3000	
MILES/Night Vision				2000								2000	
Data/First Article Test		3485										3485	
<b>SubTotal Hardware Costs</b>	<b>4</b>	<b>46772</b>	<b>3</b>	<b>34140</b>							<b>7</b>	<b>80912</b>	
<b>SUPPORT COSTS</b>													
Special SE													
Integrated Logistics Support													
Other (Specify)													
<b>SubTotal Support Costs</b>													
Software/Courseware													
<b>TOTAL COSTS</b>		<b>46772</b>		<b>34140</b>								<b>80912</b>	

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										Aircraft Survivability Equipment (AZ9504)										DATE																			
COST ELEMENTS										MFR										Fiscal Year 96										Fiscal Year 97										L									
MFR										Fiscal Year 96										Fiscal Year 97										L																			
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FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										Aircraft Survivability Equipment (AZ3504)										DATE										February 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BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRBORNE COMMAND & CONTROL (AA0710)										
P-1 ITEM NOMENCLATURE										
AIRCRAFT PROCUREMENT: Army 4, Support Equipment and Facilities										
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	0	0	0	0	0	0	0	0		
COST (in millions)	3.8	0.0	0.0	12.9	13.4	18.2	37.6	132.2		

**Description:**

The Aviation Mission Planning System (AMPS) is a planning/battle synchronization tool that will automate aviation mission planning tasks, replacing inadequate manual procedures. The system will also provide generation of mission data in either hard copy or electronic formats. The AMPS includes tactical command and control, mission planning, mission management, and maintenance management. The AMPS interfaces with the Maneuver Control System (MCS) and associated networks. This interface will furnish the aviation commander with continuous situational awareness, allowing the commander to rapidly adjust his plan to accomplish his assigned mission. The Army Airborne Command and Control System (A2C2S) functions as a highly mobile command post. When mounted in the UH-60 helicopter with auxiliary equipment, it provides tactical voice, data, and imagery digitized battlefield communications in both secure and nonsecure modes for Corps, Division, and Brigade commanders. The system provides battle commanders access to critical situational awareness and off-board national asset intelligence information via satellite communications, digitized battlefield communications links with Army combined arms team members, joint service and combined force elements, channel scanning, and intercommunications facilities for up to six operators, and joint interoperability as well as maritime and air traffic control communications.

**Justification:**

FY 99 funding will initiate procurement of 15 sets of long lead materiel and components and related system engineering, preproduction and data costs for the Airborne Command and Control Systems. The A2C2S is in response to real world needs of combat maneuver commanders to perform highly mobile and responsive digital, voice, and imagery command and control (C2) functions in the UH-60 helicopter. The UH-60 A2C2S will enable the commander and essential staff to remain highly mobile with the capability to intercept critical C2 across the designated battle area without sacrificing access to information products or jeopardizing continuity of operations due to command post relocation. Interoperability is enhanced with this system by providing the capability to communicate digitally with Navy or Air Force close air support as well as relaying target information. This system will allow Army aviation forces access to C2 and situational awareness information for conduct of close, deep, rear, and security operations. The A2C2S is used to provide C2 for disaster relief, peacekeeping, drug interdiction, and both low and high intensity conflict missions. The A2C2S will play a major role in eliminating costly fratricide incidents via the capability to closely monitor and control operations. Satellite communications provide access to tactical communication systems and enable communication with the force and command structure from JCS down to Battalion when required.



BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT: Army 4. Support Equipment and Facilities										
C. P-1 ITEM NOMENCLATURE										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
AMPS LIGHT WEIGHT COMPUTER (LCU) FY 96	SCIENCE APPLICATIONS INTERNATIONAL INC. SAN DIEGO, CA	C/FP	CECOM, PM CHS	Apr-96	Jun-96	3	30	YES	NO	
DATA TRANSFER SYSTEMS FY 96	SMITH INDUSTRIES, GRAND RAPIDS, MI	SS/FP	CECOM	Apr-96	Nov-96	311	2	YES	NO	
A2C2S LONG LEAD MATERIEL, ELECTRONIC COMPONENTS (SETS) FY 99	NAVAL RESEARCH LAB, WASHINGTON, DC	MIPR	NAVAL RESEARCH LAB	Apr-99	Jun-00	15	699	NO	YES	Mar-99

REMARKS: 1. The unit cost of a Smith Industries AMPS Data Transfer Systems is 1,513.00. 2. The long lead items for A2C2S will be incorporated into the production line which is scheduled to start in June of FY 00.



BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT / Support Equipment and Facilities					P-1 ITEM NOMENCLATURE					
AVIONICS SUPPORT EQUIPMENT (AZ3000)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		
COST (in millions)	20.1	9.9	2.7	2.7	0.0	0.0	0.0	0.0		
<p><b>DESCRIPTION:</b> Heads Up Display (HUD) AN/AVS-7 is a System which works in conjunction with the Aviator's Night Vision Imaging System (ANVIS) AN/AVS-6. It collects critical flight information from aircraft sensors and converts this information into visual imagery. This system allows continuous heads up flight by the pilot without needing to look inward at the instrument panel. This provides significant operational and safety enhancements to Night Vision Goggle flight. The HUD is made up of two subsystems, an Aircraft Integration Kit (brackets, wiring harness, etc.) [A Kit] and an Interface Box, Control Panels and two Optical Displays per aircraft [B Kit]. The entire System weight ranges from 32 to 40 pounds per aircraft. The display unit head weight is approximately 140 grams. HUD is being acquired for the highest priority aircraft in the Army inventory.</p>										
<p><b>JUSTIFICATION:</b> The FY98 and FY99 funds are required to procure retrofit upgrades for previously fielded HUDs for priority aircraft in the Army. The Army's capability to fly more effectively and safely at night will be met by the procurement of this system. The HUD, intended for the highest priority aircraft, will display critical flight information over the ANVIS image, reducing the need to divert the pilot's attention to look inward at the instrument panel.</p>										

Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON AVIONICS SUPPORT EQUIPMENT (AZ3000)				C. MANUFACTURER NAME				D. DATE February 1997	
ID CD	Aircraft Cost Elements	FY 96		FY 97		FY 98		FY 99							
		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000		
	<b>AIRCRAFT Flyaway Costs</b>														
	Airframes / CFE	3487	94	37	1557	34	46								
	Avionics														
	A. GFE														
	Other GFE				6882										
	Armament (FCR)	10777						2371			2356				
	ECO (All Flyaway Components)	14264			8439			2371			2356				
	<b>Subtotal Flyaway Costs</b>														
	<b>Non-Recurring Costs</b>														
	Tooling Equipment	5064													
	Other (Installation)*	19328			8439			2371			2356				
	<b>Total Flyaway</b>														
	<b>Support Cost</b>														
	Testing				819										
	Interim Contractor Support														
	Fielding				72			113			113				
	Other (Gov't Engineering)	577			477			98			98				
	Publications Tech / Data				14										
	Engineering Change Orders														
	Other (Project Management)	234			119			119			119				
	<b>Subtotal Support Cost</b>	811			1501			330			330				
	Gross P-1 End Cost	20139			9940			2701			2686				
	Less: Prior Year Adv Proc														
	Net P-1 Full Funding Cost	20139			9940			2701			2686				
	Plus: P-1 CY Adv Proc														
	Other Non P-1 Costs														
	Initial Spares	856													
	<b>TOTAL</b>	20995			9940			2701			2686				

\* FY 1997 Hardware will be provided as GFE to the helicopter manufacturer.

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY		C. P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		AVIONICS SUPPORT EQUIPMENT (AZ3000)									
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A	
Heads Up Display FY 95 & Prior FY 96 FY 97	TRACOR, Alpharetta, GA	C/FPM-5(4)	CECOM	Mar-95	Jul-96	1982	43	Yes	No		
	TRACOR, Alpharetta, GA	C/FPM-5(5)	CECOM	Mar-96	Jun-97	94	37				
	TRACOR, Alpharetta, GA	Option	CECOM	Mar-97	Feb-98	34	46				
<b>REMARKS:</b> ANVIS/HUD will be integrated into different aircraft in different FY's. ANVIS/HUD unit cost variances relate to different aircraft types.											



FY 98 / 99 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										AVIONICS SUPPORT EQUIPMENT (AZ3000)										DATE										February 1997										L																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B





BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT / Support Equipment and Facilities		TRAINING DEVICES (AZ3700)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0	0		
COST (in millions)	29.3	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<p><b>DESCRIPTION:</b> The Apache Integrated Training Program (AITP) will provide a training system which supports training for maintainers and operators. The AITP is an interactive computer-based training program that will provide new equipment and sustainment training in the field and at the schools. The training system includes:</p> <ul style="list-style-type: none"> <li>- Maintenance trainers, which support individual task training of the AH-64A Airframe and subsystems: <ul style="list-style-type: none"> <li>a. Airframe, Engine, and Drivetrain Systems Trainer (AEDST)</li> <li>b. Armament and Electrical Trainer (AET)</li> </ul> </li> <li>- Operator trainers: <ul style="list-style-type: none"> <li>a. modification of the Cockpit, Weapons, Emergency Procedures Trainer (CWEPT) to an Apache Crew Trainer (ACT), which vastly improves individual and crew training.</li> <li>b. Apache Collective Training System (ACTS), which trains collective tasks from team to battalion.</li> </ul> </li> </ul> <p><b>JUSTIFICATION:</b> The development and delivery of AITP maintenance trainers returns flyable category B aircraft, used as maintenance trainers, back into the warfighting fleet. The operator trainers will provide and sustain task proficiency and optimize the greater capabilities to support the development and use of scarce flying hours. In particular, the ACTS will better prepare units for exercises at the National Training Center (NTC) and provide combined arms simulation training with other combat arms through Combined Arms Tactical Trainers (CATT).</p>											

Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON TRAINING DEVICES (AZ3700)				C. MANUFACTURER NAME See P-5a		D. DATE February 1997	
Aircraft		FY 96		FY 97		FY 98		FY 99					
Cost Elements		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
AIRCRAFT Flyaway Costs													
Airframes / CFE													
Avionics													
A. GFE													
Other GFE													
Armament (FCR)													
ECO (All Flyaway Components)													
Other Costs (Halon)													
Subtotal Flyaway Costs													
Non-Recurring Costs													
Tooling Equipment													
Other System Test													
Total Flyaway													
Support Cost													
Engine (leftover A model)													
Airframe PGSE													
Engine PGSE													
Peculiar Training Equipment													
Publications Tech / Data													
Engineering Change Orders													
Other (specify) Net/ICS/Mtxsupt													
Subtotal Support Cost													
Gross P-1 End Cost													
Less: Prior Year Adv Proc													
Net P-1 Full Funding Cost													
Plus: P-1 CY Adv Proc													
Other Non P-1 Costs													
Initial Spares													
Mods													
TOTAL		29320			7332								

B. APPROPRIATION / BUDGET ACTIVITY		BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		C. P-1 ITEM NOMENCLATURE											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A	TRAINING DEVICES (AZ3700)		
Peculiar Training Devices													
A6X FY96	E-SYSTEM, Lexington KY	C/CPFF	Bluegrass Station SOFSA	Apr-96	May-97	2	1578	Yes	No				
Apache Collective Training System (ACTS) FY96	E-SYSTEM, Lexington KY	C/CPFF	Bluegrass Station SOFSA	Jun-96	Sep-97	2	9096	No	No				
Apache Sustainment Training Kit FY 96 Hardware FY 96 Courseware FY 96 Courseware	Micron Research; L.A. CA McDonnell Douglas Helicopter Systems (MDHS), Mesa, AZ. LSI, Jacksonville, FL	C/FP S/FP C/CPFF	USAATCOM USAATCOM NAWC	Jul-96 Jul-96 Jul-96	Aug-96 Oct-96 Jan-97	45	22 4000 1300	N/A N/A N/A	N/A N/A N/A				
FY96 Hardware/Storage/Maintenance	E-SYSTEM, Lexington KY	C/CPFF	Bluegrass Station SOFSA	Jul-96	Aug-96		217	N/A	N/A				
AITP Upgrade FY96 FY97	Gov't Requisitions Unknown	C/FP C/FP	USAATCOM USAATCOM	May-96 Jan-97	Sep-96 Dec-97		1475 7332	N/A N/A	N/A N/A				
REMARKS:													

Simulator and Training Device Justification										Date
Appropriation / P-1 Line Item		Weapon System (if applicable)				Equipment Nomenclature				February 1997
AIRCRAFT PROCUREMENT/TRAINING DEVICES		AH-64 Apache								PE
Fin Plan	1996 & Prior Years	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Total	
Quantity (Each)	53								53	
Proc (\$000)	43373	7332							50705	
RDT&E (\$000)										
O&S (\$000)										

**TRAINING SYSTEM DESCRIPTION:**

The Apache Integrated Training Program (AIPT) encompasses maintainer and operator training devices. The A7 Armament/Electrical Trainer (AET-A7) is built from non-repairable crash-damaged aircraft and supports the training of entry level maintenance personnel in the operation, fault isolation, and repair of the AH-64A armament and electrical systems. The A6 Airframe and Engine Drive Systems Trainer (AEDST-A6) provides similar entry level instruction for those systems. Apache sustainment training kit will provide self-paced interactive, computer-based instruction in fielded Apache battalions to reinforce maintenance and troubleshooting skills needed to maintain optimal readiness rates. The Apache Collective Training System (ACTS) will provide collective training for companies and battalions. Other maintenance devices requiring configuration upgrades include the Integrated Avionics Trainer (IAT-A4), the Armament/Fire Control/Visionics Trainer (AFCVT-A5), the Flight Control/Powertrain Trainer (FCPT-A2), and Composite Trainer (A1). FY97 funds configuration upgrades to the AET A7, the AEDST-A6, the IAT-A4, the AFCVT-A5, the FCPT-A2, and the A1 trainers. The Apache Crew Trainer (ACT) provides entry level operator training, optimizing the use of actual aircraft flying hours to train the pilot and copilot/gunner in individual and crew tasks. The ACT upgrades existing Cockpit, Weapons and Emergency Procedures Trainer (CWEPT) with improved out-the-window visual systems, host computer, instructor/operator station, helmet-mounted display, flight model, and aural cues. The Apache Collective Training System (ACTS) will provide collective and limited combined arms training capabilities at the team, company, and battalion levels. Interoperable with other Combined Arms Tactical Trainers, the ACTS will enable Apache units to train with other combat arms on the virtual simulation battlefield and demonstrate the combat multiplier effect of an Apache unit.

## Simulator and Training Device Justification (Page 2)

Simulator and Training Device Justification (Page 2)										Date		
Appropriation / P-1 Line Item		Weapon System (if applicable)			IOC Date		Equipment Nomenclature			February 1997		
AIRCRAFT PROCUREMENT/T/TRAINING DEVICES		AH-64 Apache			Jul 86					12102706		
Training Device By Type	Site	Del. Date	Ready For Tng Date	Avg Student Thruput	Prior Years		FY 1997		FY 1998		FY 1999	
					Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
					Each	\$000	Each	\$000	Each	\$000	Each	\$000
AET-A7	Ft Eustis, VA	Jun-97	Jul-97	242	1	6642						
A6X	Ft Eustis, VA	May-97	Jul-97	468	2	3156						
Apache Sustainment Training Kit	Ft Eustis, VA	Oct-96	Dec-96	N/A	45	6497						
AITP Upgrades	Ft Eustis, VA	Sep-96	Nov-96	N/A		1475		7332				
Apache Collective Training System (ACTS)	Ft Hood	Sep-97	Sep-97	384	2	18192						
Apache Crew Trainer	Ft Rucker	May-96	Jun-96	339	1	7411						
</												

Simulator and Training Device Justification (Page 3)										DATE		February 1997	
Training Device By Type										Weapon System (if applicable)			
AET, A6X, ACTS, and Apache Sustainment Training Kit										AH-64 Apache Helicopter			
Description / Justification													
Trainers for armament/electrical and airframe/engine drive systems maintenance tasks, upgraded CWEPT, operator trainers, Apache Collective Training System and personal computer stations with maintenance training courseware.													
Financial Plan	Prior Years		FY 1997		FY 1998		FY 1999		Cost To Complete		Total Cost		
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	
	Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000	
<b>HARDWARE COSTS</b>													
Device (hardware)	53	38107									53	38107	
ECOs													
Nonrecurring													
GFE													
Other (Specify)													
<b>SubTotal Hardware Costs</b>	<b>53</b>	<b>38107</b>									<b>53</b>	<b>38107</b>	
<b>SUPPORT COSTS</b>													
Special SE													
Integrated Logistics Support													
Other (Specify)													
<b>SubTotal Support Costs</b>													
Software/Courseware												5266	
<b>TOTAL COSTS</b>												<b>43373</b>	



# Simulator and Training Device Justification (Page 3)

Training Device By Type		DATE										
ATTP Upgrades		February 1997										
Weapon System (if applicable) AH-64 Apache Helicopter												
Description / Justification												
Configuration upgrades to A1, FCPT-A2, IAT-A4, AFCVT-A5, A6X, and/or AET-A7 trainers												
Financial Plan	Prior Years		FY 1997		FY 1998		FY 1999		Cost To Complete		Total Cost	
	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost
	Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000	Each	\$000
<b>HARDWARE COSTS</b>												
Device (hardware)												7332
ECOs												
Nonrecurring												
GFE												
Other (Specify)												
<b>SubTotal Hardware Costs</b>												7332
<b>SUPPORT COSTS</b>												
Special SE												
Integrated Logistics Support												
Other (Specify)												
<b>SubTotal Support Costs</b>												7332
Software/Courseware												
<b>TOTAL COSTS</b>												7332



BUDGET ITEM JUSTIFICATION SHEET						DATE		February 1997		
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE				COMMON GROUND EQUIPMENT (AZ3100)				
AIRCRAFT PROCUREMENT /Support Equipment and Facilities			FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY			0	0	0	0	0	0	0	0
COST (in millions)			27.6	24.9	30.6	31.0	37.8	52.2	67.1	57.5

**DESCRIPTION:** The Common Ground Equipment line supports aviation related Sets, Kits, and Outfits (AX3510), Aviation Ground Support Equipment (AZ3520) and Airfield Support Equipment (AZ1710). The Sets, Kits, and Outfits (SKO) consist of shop sets, tool kits, and outfits configured to accomplish both routine and safety-of-flight maintenance repair functions on Army aircraft. The Aviation Ground Support Equipment (AGSE) is required to make Army aircraft and associated subsystems operational in their intended operational environments. This equipment is required to guide, control, inspect, test, adjust, calibrate, assess, gauge, assemble/disassemble, handle, transport, service, repair and overhaul aircraft and associated equipment. The Airfield Support Equipment (AFSE) provides fixed based, high tech systems that support Army airfields. These systems are the same or similar to the Federal Aviation Administration (FAA) services.

**JUSTIFICATION:**

**Sets, Kits, and Outfits:** FY 98-99 funding will achieve and sustain the operational readiness of all Army aviation field units, which operate AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Sets, Kits, and Outfits (SKO) funding will also provide systems to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for SKO. New Aircraft Tool System (NATS) is a system of new tool kits and sets that provide the aircraft mechanic with high quality industrial grade tools supported by commercial warranties configured in boxes for instant inventory capability. International Standard Organization (ISO) Shelters are 20 foot expandable shelters designed to meet ISO transportation standards and are configured internally to house the various shops (i.e. engine, prop and rotor, welding, etc.) used for aircraft maintenance support at the Aviation Intermediate Maintenance (AVIM) level. The Unit Maintenance Aerial Recovery Kit (UMARK) is a lightweight, man-portable, aerial recovery kit which will provide AVIM and AVUM organizations the capability to quickly rig for aerial recovery of aircraft on the battlefield which cannot be repaired and must be evacuated.

**Aviation Ground Support Equipment:** FY 98-99 funding will achieve and sustain the operational readiness of all Army aviation field units, which are operating AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Aviation Ground Support Equipment (AGSE) also provides a means to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for AGSE. The Aviation Ground Power Unit (AGPU) is a self-propelled cart capable of simultaneously providing electrical, hydraulic and pneumatic power for aircraft starting, servicing and maintenance purposes. The Shop Equipment Contact Maintenance (SECM) is a shelter designed to be mounted on a heavy variant 1 1/4 ton truck (HMMWV) and carry a tailored load of personnel, tools, supplies and repair parts necessary to perform aircraft repair and recovery missions at locations separate from the unit. The Flexible Engine Diagnostics System (FEDS) is a turboshaft engine test system designed for out-of-airframe testing of the T53, T55, T63 and T700 series of aircraft engines at a maintenance level below depot. Self Generating Nitrogen Servicing Cart (SGNSC) is being developed to provide Army Aviation with 95% pure nitrogen gas to properly service/adjust aircraft accumulators, main rotor blades, landing gear struts and tires. The SGNSC will also be used to refill nitrogen bottles used at all levels of aviation maintenance.

**Airfield Support Equipment:** FY 98 and FY 99 funds will procure and provide for joint service National Airspace Systems used in Army Air Traffic Control Towers. The new Enhanced Terminal Voice Switch (ETVS) will be an Operations and Support (O&S) cost saver, remembering that most of the existing Air Traffic Control systems are difficult to maintain and are not economically supportable. Funding will also insure interoperability of Army Air Traffic Control Systems within the Department of Transportation while adhering to the Congressionally mandated Federal Aviation Administration National Airspace System modernization effort. The new tower automation packages will provide modern voice switching equipment that will ensure interoperability on Army Air Traffic Control Systems within the National Airspace System and will replace outdated and unsupportable voice switches currently in the Army inventory. These systems will provide commonality of equipment and training for both crews and ground controllers. The new systems will support sister services, host nations' interface requirements, and fixed base Air Traffic Control facilities well into the next century. These state-of-the-art systems will reduce maintenance costs, increase reliability, and improve overall safety for Army Aviation.

Aircraft Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			B. WEAPON COMMON GROUND EQUIPMENT (AZ3100)			C. MANUFACTURER NAME			D. DATE February 1997		
ID	CD	Aircraft Cost Elements	FY 96			FY 97			FY 98			FY 99		
			TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
		Sets, Kits, and Outfits (AZ3510)	8,417			7,160			5,614			3,716		
		Aviation Ground Support Equip (AZ3510)	10,179			9,475			9,275			9,285		
		Airfield Support Equipment (AZ1710)	8,963			8,252			15,747			18,040		
		Items Less than \$2.0M (Elect War-Air (AB1600)	83											
		TOTAL	27,642			24,887			30,636			31,041		

BUDGET ITEM JUSTIFICATION SHEET								DATE	
APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT /Support Equipment and Facilities		P-1 ITEM NOMENCLATURE							
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY		0	0	0	0	0	0	0	0
COST (in millions)		8.4	7.2	5.6	3.7	3.7	3.7	8.1	8.4
<p><b>DESCRIPTION:</b> Sets, Kits and Outfits (SKO) consists of shop sets, tool kits and outfits configured to accomplish both routine and safety-of-flight maintenance repair functions on Army aircraft. All items of SKO are Code A.</p> <p><b>JUSTIFICATION:</b> FY 98-99 funding will achieve and sustain the operational readiness of all Army aviation field units, which operate AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Sets, Kits, and Outfits (SKO) funding will also provide systems to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for SKO. New Aircraft Tool System (NATS) is a system of new tool kits and sets that provide the aircraft mechanic with high quality industrial grade tools supported by commercial warranties configured in boxes for instant inventory capability. International Standard Organization (ISO) Shelters are 20 foot expandable shelters designed to meet ISO transportation standards and are configured internally to house the various shops (i.e. engine, prop and rotor, welding, etc.) used for aircraft maintenance support at the Aviation Intermediate Maintenance (AVIM) level. The Unit Maintenance Aerial Recovery Kit (UMARK) is a lightweight, man-portable, aerial recovery kit which will provide AVIM and AVUM organizations the capability to quickly rig for aerial recovery, aircraft on the battlefield which cannot be repaired and must be evacuated.</p>									

Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON SETS, KITS AND OUTFITS (AZ3510)				C. MANUFACTURER NAME Various		D. DATE February 1997	
Aircraft Cost Elements		FY 96		FY 97		FY 98		FY 99					
ID	CD	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
1. New Aviation Tool Set (NATS) Hardware Fielding Program Management Support	A	6,832 12 200	3,681	2	5,128 20 100	4,303	1	18					
2. Non-divisional Shop Set Hardware Production Engineering Non-divisional Partial Shop Set	A	576 50	1	576				800	2	400			
3. International Standard Organization Shelters (ISO) (M31001) 60 Amp Shelters 100 Amp Shelters	A	142	3	47				345	5	69			
4. New Aviation Tool Set - A (NATS-A) Hardware Fielding Program Management Support	A	496 8 101	431	1	1,797 15 50	1,021	2	1,860 20	1,028	2		24	
5. Unit Maintenance and Recovery Kit (UMARK) Hardware Fielding Production Engineering	A				50			2,507 14 50	61	41	3,659 33	89	41
<b>TOTAL</b>		<b>8,417</b>			<b>7,160</b>			<b>5,614</b>			<b>3,716</b>		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities										February 1997
C. P-1 ITEM NOMENCLATURE										
SETS, KITS AND OUTFITS (AZ3510)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPEC AVAIL NOW	SPEC REV REC'D	IF YES W/A
<b>1. New Aviation Tool Set (NATS)</b>										
FY 95	Rock Island Arsenal (RIA)	MIPR	ATCOM	Jan-95	Oct-95	4,104	2	Yes	No	
FY 96	RIA	MIPR	ATCOM	Feb-96	Jul-96	3,681	2	Yes	No	
FY 97	RIA	MIPR	ATCOM	Apr-97	Nov-97	4,303	1	Yes	No	
<b>2. Non-divisional Shop Set</b>										
FY 96	Rock Island Arsenal (RIA)	MIPR	ATCOM	Jun-96	Dec-96	1	576	Yes	No	
FY 98	RIA	MIPR	ATCOM	Dec-97	Jun-98	2	400	Yes	No	
<b>3. International Standard Organization Shelters (ISO) (M31001)</b>										
FY 95	Brunswick Defense, Inc. Marion, VA	C/FP-O	ATCOM	Sep-95	Jul-96	15	47	Yes	No	
FY 96	Brunswick Defense, Inc.	C/FP-O	ATCOM	Aug-96	Apr-97	3	47	Yes	No	
FY 98	TBD	C/FP	AMCOM	Mar-98	Nov-98	5	69	Yes	No	
<b>4. New Aviation Tool Set - A (NATS-A)</b>										
FY 96	Rock Island Arsenal (RIA)	MIPR	ATCOM	Sep-96	Dec-96	431	1	Yes	No	
FY 97	RIA	MIPR	ATCOM	Mar-97	May-97	1,021	2	Yes	No	
FY 98	RIA	MIPR	AMCOM	Jan-98	Mar-98	1,028	2	Yes	No	
<b>5. Unit Maintenance Aerial Recovery Kit (UMARK)</b>										
FY 98	TBS	C/FP	AMCOM	Jul-98	Jan-99	61	41	Yes	No	
FY 99	TBS	C/FP-O	AMCOM	Jan-99	Jul-99	89	41	Yes	No	
REMARKS:										

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT /Support Equipment and Facilities		P-1 ITEM NOMENCLATURE									
		AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0	0	0	
COST (in millions)	10.2	9.5	9.3	9.3	9.2	9.1	8.7	8.4			
<p><b>DESCRIPTION:</b> Aviation Ground Support Equipment (AGSE) is necessary to make an aircraft, or one of its associated systems or subsystems, operational in it's intended environments. This includes all equipment required to guide, control, inspect, test, adjust, calibrate, assess, gauge, assemble, disassemble, handle, transport, store, actuate, service, repair and/or overhaul the aircraft system or subsystems. Included are such items as aviation ground power units, hydraulic test stands, etc.</p> <p><b>JUSTIFICATION:</b> FY 98-99 funding will achieve and sustain the operational readiness of all Army aviation field units, which are operating AH-64, UH-60, CH-47, OH-58D and other Army aircraft. Aviation Ground Support Equipment (AGSE) also provides a means to correct safety-of-flight discrepancies which endanger both life and property. With more aircraft being added to the Army inventory, the fielding of new aviation units and the diversification of aviation missions creates an ever increasing requirement for AGSE. The Aviation Ground Power Unit (AGPU) is a self-propelled cart capable of simultaneously providing electrical, hydraulic and pneumatic power for aircraft starting, servicing and maintenance purposes. The Shop Equipment Contact Maintenance (SECM) is a shelter designed to be mounted on a heavy variant 1 1/4 ton truck (HMMWV) and carry a tailored load of personnel, tools, supplies and repair parts necessary to perform aircraft repair and recovery missions at locations separate from the unit. The Flexible Engine Diagnostics System (FEDS) is a turboshaft engine test system designed for out-of-airframe testing of the T53, T55, T63 and T700 series of aircraft engines at a maintenance level below depot. Self Generating Nitrogen Servicing Cart (SGNSC) is being developed to provide Army Aviation with 95% pure nitrogen gas to properly service/adjust aircraft accumulators, main rotor blades, landing gear struts and tires. The SGNSC will also be used to refill nitrogen bottles used at all levels of aviation maintenance.</p>											





Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)				C. MANUFACTURER NAME Various		D. DATE February 1997			
Aircraft Cost Elements		FY 96				FY 97				FY 98				FY 99	
		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
9. Large Area Maintenance Shelter Hardware	A	654	1	654											
TOTAL		10,179			9,475				9,275				9,285		



BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)											DATE	February 1997
C. P-1 ITEM NOMENCLATURE												
AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)												
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPECS REV REQD	IF YES W/A		
<b>1. Non-Destructive Test Equipment (NDTE)</b>												
<b>X-Ray Machine</b>												
FY 95	Lorad Corporation, Danbury, CT	C/FP-O	Kelly Air Force Base	Aug-95	Nov-95	48	37	Yes	No			
FY 97	Lorad Corporation	C/FP-O	Kelly Air Force Base	Jan-97	Apr-97	10	37	Yes	No			
<b>Ultra Sound</b>												
FY 95	Krautkramer-Branson Inc. Lewistown, PA.	C/FP-O	Kelly Air Force Base	Sep-95	Nov-95	97	5	Yes	No			
FY 97	Krautkramer-Branson Inc.	C/FP-O	Kelly Air Force Base	Jan-97	Mar-97	24	5	Yes	No			
<b>Eddy Current</b>												
FY 95	Staveley Instruments Inc. Kennewick, WA	C/FP-O	Kelly Air Force Base	Aug-95	Nov-95	97	13	Yes	No			
FY 97	Staveley Instruments Inc.	C/FP-O	Kelly Air Force Base	Jan-97	Apr-97	24	13	Yes	No			
<b>Harmonic Bond</b>												
FY 96	Staveley Instruments Inc.	C/FP-O	ATCOM	May-96	Aug-96	97	14	Yes	No			
FY 96	Staveley Instruments Inc.	C/FP-O	ATCOM	Jul-96	Oct-96	24	14	Yes	No			
<b>2. Flexible Engine Diagnostics System (FEDS)</b>												
<b>(A08701)</b>												
FY 95	Corpus Christi Army Depot	**	ATCOM	Aug-95	Sep-97	3	2,044	Yes	No			
FY 96	Corpus Christi Army Depot	**	ATCOM	Mar-96	Apr-98	2	2,044	Yes	No			
FY 97	Corpus Christi Army Depot	**	ATCOM	Jan-97	Feb-99	2	2,044	Yes	No			
FY 98	Corpus Christi Army Depot	**	ATCOM	Jan-98	Feb-00	2	2,506	Yes	No			
REMARKS:												
**Funds to Corpus Christi Army Depot (CCAD) through Industrial Operations Command (IOC).												

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
C. P-1 ITEM NOMENCLATURE											
AVIATION GROUND SUPPORT EQUIPMENT (AZ3520)											
LINE ITEM / BUDGET ACTIVITY AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities	LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REC'D	IF YES W/A
<b>3. Aviation Ground Power Unit (AGPU)(A00701)</b> FY 95 FY 96 FY 97		Engineered Air Systems Inc. St. Louis, MO	C/FP/O	ATCOM	May-95	May-97	20	216	Yes	No	
		Engineered Air Systems, Inc.	C/FP/O	ATCOM	Sep-96	Sep-98	11	218	Yes	No	
		Engineered Air Systems, Inc.	C/FP/O	ATCOM	May-97	May-99	19	218	Yes	No	
<b>4. Fuel Quantity Gauge Tester (A07401)</b> FY 95 FY 96		J.C. Air, Industrial Airport, KS J.C. Air	C/FP-O C/FP	Kelly Air Force Base Kelly Air Force Base	May-95 Jun-96	Sep-95 Oct-96	55 40	5 5	Yes Yes	No No	
		D&D Machinery and Sales, Inc. San Antonio, TX	C/FP	Naval Air Systems Cmd	Jun-96	Nov-96	50	3	Yes	No	
<b>6. Shop Equipment Contact Maintenance (SECM)</b> FY 98 FY 99		TBS TBS	C/FP C/FP-O	AMCOM AMCOM	Jan-98 Jan-99	May-98 May-99	375 46	11 11	No No	N/A N/A	
		TBS	C/FP-O	Kelly Air Force Base	Jan-99	Jan-00	49	68	Yes	No	
<b>7. Self Generating Nitrogen Servicing Cart (SGNSC)</b> FY 99		TBS	C/FP	AMCOM	Apr-99	Oct-00	108	50	No	N/A	
<b>8. Aircraft Cleaning/ Deicing System (ACDS)</b> FY 99		TBS	C/FP	ATCOM	Sep-96	Nov-96	1	654	Yes	No	
<b>9. Large Area Maintenance Shelter</b> FY 96		Clamshell Buildings, Inc. Ventura, CA	C/FP	ATCOM							
REMARKS:											

## BUDGET ITEM JUSTIFICATION SHEET

DATE \_\_\_\_\_

February 1997

**APPROPRIATION / BUDGET ACTIVITY**

AIRCRAFT PROCUREMENT

/Support Equipment and Facilities

## P-1 ITEM NOMENCLATURE

AIRFIELD SUPPORT EQUIPMENT (AZ1710)

	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY	0	0	0	0	0	0	0	0
COST (in millions)	9.0	8.3	15.7	18.0	24.9	39.3	49.4	39.6

**DESCRIPTION:** Airfield Support Equipment (Air Traffic Control) requirements will be met through a vast array of high-tech solutions which will provide a highly reliable air traffic control system. These systems will, as much as possible, be the same as the Federal Aviation Administration systems. The digitized Radar Surveillance Central will provide 360 degrees coverage to a range of 60 nautical miles and up to an altitude of 20,000 feet. The National Airspace Integration program provides engineering and automation modernization necessary for Army Air Traffic Control facilities to interface with radar, tower control communication, Communication Console System, and navigational aides. The Enhanced Terminal Voice Switch (ETVS) is an integrated voice switching system that is highly reliable, rapidly reconfigurable, that provides air traffic control personnel with access to both air-to-ground and ground-to-ground connectivity to support terminal air traffic control operations. The ETVS will replace the remaining electromechanical switches in the Army DoD/Federal Aviation Administration (FAA) inventory. The switch will be sizable from 8 to 150 positions and provide for a combination of 75 frequencies/interphone circuits. The Precision Landing Approach system will incorporate state of the art primary radar features with a 10 nautical mile precision approach digitized display. The ancillary systems are normally one of a kind, one time buy, navigational aides, such as Non-Directional Beacon, Distance Measuring Equipment, Instrument Landing System, and Tactical Air Navigation System. These systems support immediate need type requirements tailored to meet aviation stationing plans.

**JUSTIFICATION:** FY 98 and FY 99 funds will procure and provide for joint service National Airspace Systems used in Army Air Traffic Control Towers. The new Enhanced Terminal Voice Switch (ETVS) will be an Operational and Support (O&S) cost saver, remembering that most of the existing Air Traffic Control systems are difficult to maintain and are not economically supportable. Funding will also insure interoperability of Army Air Traffic Control Systems within the Department of Transportation while adhering to the Congressionally mandated Federal Aviation Administration National Airspace System modernization effort. The new tower automation packages will provide modern voice switching equipment that will ensure interoperability on Army Air Traffic Control Systems within the National Airspace System and will replace outdated and unsupportable voice switches currently in the Army inventory. These systems will provide commonality of equipment and training for both crews and ground controllers. The new systems will support assister services, host nations' interface requirements, and fixed base Air Traffic Control facilities well into the next century. These state-of-the-art systems will reduce maintenance costs, increase reliability, and improve overall safety for Army Aviation.

Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON AIRFIELD SUPPORT EQUIPMENT (AZ1710)				C. MANUFACTURER NAME Various		D. DATE February 1997	
ID	CD	FY 96		FY 97		FY 98		FY 99		TotalCost \$000	Qty Each	UnitCost \$000	UnitCost \$000
		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each				
1. Radar Surveillance Central AN/FPN 66 (U126) Other Costs FPN Digitization Engineer, Furnish, & Install (EF&I) Fielding Other		4,243	9	471	761	1	761						
		265			600								
					15								
		293			425								
2. Communication Console System (CCS) Hardware Other Costs Engineer, Furnish, & Install (EF&I) Fielding		700			50								
		68			30								
3. Recorders/Reproducers Hardware Other Costs Engineer, Furnish, & Install (EF&I) Fielding Interim Contractor Support Second Level Engineering Support		160	4	40									
		271											
		50			200								
		80			80								
4. Precision Landing Approach Hardware Other Costs Engineer, Furnish, & Install (EF&I)					5,000	2	2,500	10,400	4	2,600	5,200	2	2,600
					410			1,500					
SUBTOTAL		6,130			7,571			11,900			5,200		

Aircraft Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities				B. WEAPON AIRFIELD SUPPORT EQUIPMENT (AZ1710)				C. MANUFACTURER NAME Various		D. DATE February 1997			
Aircraft Cost Elements		FY 96				FY 97				FY 98				FY 99	
ID	CD	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000		
5. National Airspace System (NAS)															
A. Enhanced Terminal Voice Switch (ETVS)															
Hardware Engineer, Furnish, Install & Test (EFI&T) Fielding		430	1	430	434			1,278 616	9	142	1,756 1,602	11	160		
B. Tower Automation															
Hardware Engineer, Furnish, Install & Test (EFI&T) Fielding								975			3,432 438	4	858		
C. Army Radar Approach Control (ARAC)															
Hardware Engineer, Furnish, Install & Test (EFI&T) Fielding								590			4,412 300	1	4,412		
6. Other		2,403			247			388			900				
Includes such ancillary equipment as Radar Test Measurement Diagnostic Equipment, Radar Uninterrupted Power Supply, Instrument Landing System, and Radar Repairs.															
TOTAL		8,963			8,252			15,747			18,040				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)											DATE	February 1997
C. P-1 ITEM NOMENCLATURE												
AIRFIELD SUPPORT EQUIPMENT (AZ1710)												
B. APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities		LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A
1. Radar Surveillance Central AN/FPN-66												
	FY 96		Wilcox Kansas City Mo	C/FP	CECOM	Jan-97	Nov-97	9	471	Yes	No	
	FY 97		Wilcox Kansas City Mo	C/FP	CECOM	Mar-97	Aug-98	1	761	Yes	No	
2. Recorders/Reproducers												
	FY 96		Federal Aviation Administration (FAA) Washington, DC	C/FP-O	FAA	Apr-96	Oct-96	4	40	Yes	No	
3. Precision Landing Approach												
	FY 95		Raytheon Cambridge, MA	C/FP	CECOM	May-95	Nov-97	1	2,453	Yes	No	
	FY 97		Raytheon Cambridge, MA	C/FP-O	CECOM	Jun-97	Dec-98	2	2,500	Yes	No	
	FY 98		Raytheon Cambridge, MA	C/FP-O	CECOM	Mar-98	Aug-99	4	2,600	Yes	No	
	FY 99		Raytheon Cambridge, MA	C/FP-O	CECOM	Jan-00	May-01	2	2,600	Yes	No	
REMARKS:												

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities										February 1997
C. P-1 ITEM NOMENCLATURE AIRFIELD SUPPORT EQUIPMENT (AZ1710)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
<b>4. National Airspace System (NAS)</b>										
Enhanced Terminal Voice Switch (ETVS)										
FY 96	Federal Aviation Administration (FAA) Washington, DC	C/FP	FAA	Dec-96	Aug-97	1	430	Yes	No	
FY 98	Federal Aviation Administration (FAA) Washington, DC	C/FP-O	FAA	Feb-98	Aug-98	9	142	Yes	No	
FY 99	Federal Aviation Administration (FAA) Washington, DC	C/FP-O	FAA	Feb-99	Aug-99	11	160	Yes	No	
Tower Automation										
FY 99	Federal Aviation Administration (FAA)	C/FP	FAA	Mar-99	Mar-00	4	858	Yes	No	
Army Radar Approach Control (ARAC)										
FY 99	Federal Aviation Administration (FAA) Washington, DC	C/FP	FAA	Feb-99	Feb-00	1	4,412	Yes	No	
REMARKS:										



BUDGET ITEM JUSTIFICATION SHEET										DATE		February 1997	
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APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT, Army/4. Support Equipment and Facilities		AIRCREW INTEGRATED SYSTEMS (ACIS) (AZ3110)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY		0	0	0	0	0	0	0			
COST (in millions)	7.1	13.3	12.5	10.0	9.0	8.9	23.9	36.8			

DESCRIPTION: Aircrew Integrated Systems (ACIS), formerly Aviation Life Support Equipment (ALSE), addresses those items of equipment that are used to sustain Army aircrews and passengers throughout the flight profile, enhancing mission performance and aircrew survivability during operational missions, aircraft crash, and the postcrash period prior to rescue. The ACIS items that accomplish the aircrew-aircraft integration functions include aircraft cockpit air bags, chemical/biological protective mask blowers, helicopter oxygen systems, nuclear flash and laser eye protection, helmets, (including helmet mounted display and head tracker horizontal integration across various airframes), aircrew microclimatic conditioning systems, flotation devices, survival kits and equipment, and NBC warning, decontamination and filtration systems.

JUSTIFICATION: FY 98/99 funding will provide for acquisition of the Cockpit Air Bag System (CABS) for UH-60 Blackhawk helicopters to improve crash survivability and reduce potential injuries and fatalities. The CABS includes an "A" kit (aircraft modification that provides for adaptation of CABS to the aircraft, e.g., electrical power, hard points and miscellaneous attachment hardware) and a "B" kit (CABS components, including crewmember air bag modules, crash sensor, gas generator, and system packaging). The CABS will transition from Engineering and Manufacturing Development (EMD) to Production in FY97. This funding will permit incorporation of CABS into UH-60 Blackhawk Force Package One aircraft.



Aircraft Cost Analysis Exhibit (P-5)		A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT, Army/ 4. Support Equipment and Facilities				B. WEAPON AIRCREW INTEGRATED SYSTEMS (ACIS) AZ3110				C. MANUFACTURER NAME NA		DATE February 1997	
Aircraft Cost Elements		FY 96				FY 97				FY 98		FY 99	
ID	CD	TotalCost	Qty	UnitCost	TotalCost	TotalCost	Qty	UnitCost	TotalCost	TotalCost	Qty	UnitCost	UnitCost
		\$000	Each	\$	\$000	\$000	Each	\$	\$000	\$000	Each	\$	\$
<b>HARDWARE:</b>													
1. Aircrew Integrated Helmet System (AIHS) Laser Eye Protective Visor	A	2455	6546	375									
2. M48/M49 Aviator Mask-Lightweight Motor Blower (LWMB)	A	2063	2140	964									
3. Cockpit Air Bag System (CABS):	B												
UH-60 Blackhawk - Low Rate Initial Production (LRIP)					2520		140	18000					
UH-60 Blackhawk - Production					4572		254	18000	9864		548		18000
<b>Subtotal Hardware Costs</b>		4518			7092				9864				
Non-recurring Production - CABS		1900											
Engineering Change Proposal (ECP) - CABS: UH-60 Blackhawk					4000								
Installation of Kits - CABS:													
UH-60 Blackhawk					1576		394	4000	2192		548		4000
Project Management Administration		447			444				366				383
<b>Subtotal Hdw, Installation, ECP and Admin Costs</b>		6865			13112				12422				9953
<b>SUPPORT COSTS:</b>													
Fielding		277			168				50				50
<b>Subtotal Support Costs</b>		277			168				50				50
<b>TOTAL</b>		7142			13280				12472				10003

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT, Army/4. Support Equipment and Facilities										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
1. <u>Aircrew Integrated Helmet System (AIHS) Laser Eye Protective Visor</u> FY 96	TBS	C/FP	ATCOM	Jan-97	Jul-97	6546	375	Yes	No	
2. <u>M48/M49 Aviator Mask-Lightweight Motor Blower (LWMB)</u> FY 96	Micronel, Inc., Vista, CA	C/FP (OP)	ERDEC	Aug-96	Nov-96	2140	964	Yes	No	
3. <u>Cockpit Air Bag System (CABS)</u> FY 97 (LRIP)	Simula, Inc, Phoenix, AZ	SS/FP	ATCOM	Aug-97	Dec-97	140	18000	Yes	No	
FY 97 (PROD)	Simula, Inc, Phoenix, AZ	SS/FP	ATCOM	Sep-97	Mar-98	254	18000	Yes	No	
FY 98	TBS	C/FP	ATCOM	Mar-98	Sep-98	548	18000	Yes	No	
FY 99	TBS	C/FP(OP)	ATCOM	Jan-99	Jul-99	435	18000	Yes	No	
REMARKS: FY 97 CABS buy is sole source to Simula, Inc. (RDT&E Developer).										



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT /Support Equipment and Facilities		AIR TRAFFIC CONTROL (AA0050)									
QUANTITY		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
		0	0	0	0	0	0	0	0	0	
COST (in millions)		12.6	6.4	5.8	5.9	9.2	40.3	30.8	36.4		
<p><b>DESCRIPTION:</b> Air Traffic Control equipment contained in this budget cycle are Tactical Terminal Control System, Air Traffic Navigation Integration and Coordination System, and the Tactical Airspace Integration System. The Tactical Terminal Control System will provide secure, jam-resistant radio communication with manpack capabilities to remote landing and pickup zones along the forward edge of the battle area. The Air Traffic Navigation Integration and Coordination System will provide all weather instrument flight capabilities to include enroute, terminal and radar precision approach and landing services to all Army, other services, and allied aircraft. The Tactical Airspace Integration System will provide a highly mobile airspace Air Traffic Control system providing digital data/voice capability to both aircraft and ground commanders. It will interface with all Tactical Command and Control Systems and assist commanders with Army Aviation Command and Control.</p> <p><b>JUSTIFICATION:</b> FY 98 and FY99 funding will start acquisition of the Air Traffic Navigation Integration and Coordination System. Cost savings will be realized by the acquisition of the Air Traffic Navigation Integration and Coordination System in the form of a new twenty year life cycle with aviation safety enhanced by extending the operational availability of this system. The new family of tactical Air Traffic Control systems will replace current generation equipment that is antiquated and not economically supportable. These systems will be compact, highly mobile, quick to install and will be able to keep pace with the fast tempo of the modern battlefield. The continued acquisition of these Air Traffic Control Systems will support present and future warfighting concepts and assist the maneuver commander/Army aviator by providing significant improvements in the area of secure communications, data processing automation, equipment reliability, maintainability, survivability, and transportability.</p>											



BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
C. P-1 ITEM NOMENCLATURE										
AIR TRAFFIC CONTROL (AA0050)										
<b>1. Tactical Terminal Control System (TTCS)</b>										
FY 96	Magnavox Ft. Wayne, IN	C/FP-O	CECOM	Mar-96	Jun-97	26	369	Yes	No	
FY 97	Magnavox Ft. Wayne, IN	C/FP-O	CECOM	Jan-97	Mar-98	10	305	Yes	No	
<b>2. Tactical Airspace Integration System (TAIS)</b>										
FY 96	Motorola Phoenix, AZ	CPFP	MICOM	Sep-96	Mar-97	1	2,500	Yes	No	
FY 97	Motorola Phoenix, AZ	CPFP	MICOM	Nov-96	Mar-97	1	2,387	Yes	No	
FY 99	Motorola Phoenix, AZ	CPFP	AMCOM	Feb-99	Nov-99	1	1,500	Yes	No	
<b>3. Air Traffic Navigation and Integration System (ATNAVICS)</b>										
FY 98	Raytheon Cambridge, MA	C/FP-O	CECOM	Feb-98	May-99	1	3,332	Yes	No	
FY 99	Raytheon Cambridge, MA	C/FP-O	CECOM	Feb-99	May-00	1	3,418	Yes	No	
REMARKS:										

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE								February 1997
AIRCRAFT PROCUREMENT /Support Equipment and Facilities		INDUSTRIAL FACILITIES (AZ3300)								
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
QUANTITY		0	0	0	0	0	0	0	0	
COST (in millions)		2.8	2.0	2.0	2.0	2.0	2.0	2.2	2.2	
<p><b>DESCRIPTION:</b> This program provides for Provision of Industrial Facilities (PIF). Funds are used to establish, modernize, expand and replace facilities owned by the Army and provide Production Support and Equipment Replacement (PSR) of Government owned equipment used in production, production testing and depot level maintenance of Aircraft items. Also provides funding for the Value Engineering (VE) program to stimulate activity for reducing manufacturing, acquisition, operation and support costs.</p> <p><b>JUSTIFICATION:</b> The FY98 and FY99 requests will provide Data Reduction Equipment, Video and Graphic Equipment, test equipment and other equipment and instrumentation. This equipment is used in production acceptance testing of APACHE, Black Hawk, other aircraft, engines, aviation systems, and related components. Funding also supports value engineering for aircraft production and emergency equipment and real property</p>										
			FY 1996	FY 1997	FY 1998	FY 1999				
PIF			1.902	1.217	1.221	1.174				
VE			<u>0.857</u>	<u>0.813</u>	<u>0.828</u>	<u>0.862</u>				
TOTAL			2.759	2.03	2.049	2.036				

Production Support and Facilities Projects			DATE		February 1997	
APPROPRIATION / BUDGET ACTIVITY			P-1 ITEM NOMENCLATURE			
AIRCRAFT PROCUREMENT /Support Equipment and Facilities			INDUSTRIAL FACILITIES (AZ3300)			
PROJECT NO.	TYPE	NAME /LOCATION	FY 1996	FY 1997	FY 1998	FY 1999
19X8173	Annual support for Stratford Army Engine Plant Funds provide for emergency equipment & real property repairs.		0.281	0.100		
19X8181	PSR, Bell Helicopter Textron Industrial Plant Funds provide for rebuilds, upgrades and equipment rehabilitation of government owned equipment.		0.400	0.247	0.233	0.219
19X8189	PSR, General Electric Blisk Facilities Funds provide for rebuilds, upgrades and equipment rehabilitation of government equipment used in production of T700 engines. Equipment must be maintained to meet Black Hawk & Apache engine production schedules.		0.518	0.370	0.388	0.300
09X5072	PSR - Ft. Rucker Test Facilities Funds provide rehabilitation, replacement of equipment and instrumentation used in production testing of aviation systems. Equipment is used in acceptance testing of the Apache, Army Helicopter Improvement Program (AHIP), and Black Hawk Aircraft and associated equipment.		0.703	0.500	0.600	0.655
19X0016	Value Engineering, Program Support		0.630	0.592	0.548	0.562
19X0017	Value Engineering Training		0.176	0.160	0.150	0.150
69X0025	Value Engineering Support		0.051	0.061	0.130	0.150



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
AIRCRAFT PROCUREMENT: Army 4. Support Equipment and Facilities		AIRBORNE COMMUNICATIONS (AA0705)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0			
COST (in millions)	20.7	48.0	47.5	43.4	45.8	0.0	24.3	20.5			

**Description:**

Airborne Communications include Havequick (HQ) II and the AN/ARC-220 high frequency (HF) Nap-Of-The-Earth (NOE) Communications. The Air Force has upgraded the Havequick communications family to Havequick II and it has become the standard for joint service communications. The HQ II is one of six aviation systems which are required to support digitization of the battlefield. The HQ II communications is an electronic-counter-counter measure (ECCM) capable UHF-AM radio set required for joint service communication. Efforts are on-going to standardize all Army aircraft with HQ II configurations and ground timing systems which are required for synchronization of Army HQ II nets. The AN/ARC-220 HF communications system meets the Army's modernization plan by providing long range, reliable, secure communications at ranges beyond line-of-sight. The AN/ARC-220 HF incorporates automatic link establishment (ALE) to eliminate manual searches for workable frequencies, Night Vision compatible lighting and ECCM capabilities while allowing Army aviation to communicate securely at NOE altitudes. This capability allows the commander to dominate the maneuver battle while protecting his force. The AN/ARC-220 HF communications system is also capable of transmitting data and position thus facilitating the winning of the information war.

**Justification:**

Beginning in FY98, only the AN/ARC-220 HF communications system will be procured. The AN/ARC-220 HF NOE communications support digitization of the battlefield and enhance joint service communications. The AN/ARC-220 HF NOE communications is required to meet Army aviation's need for non-line-of-sight (NLOS) NOE communications. The AN/ARC-220 HF communications system supports the five (5) Army modernization objectives, project and sustain the force, protect the force, win the battlefield information war, conduct precision strikes throughout the battlefield and dominate the maneuver battle.

Aircraft Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO AIRCRAFT PROCUREMENT / 4 / Support Equipment and Facilities			B. WEAPON AIRBORNE COMMUNICATIONS (AA0705)			C. MANUFACTURER NAME			D. DATE February 1997		
Aircraft Cost Elements			FY 96			FY 97			FY 98			FY 99		
ID	CD		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
1.	A	AN/ARC-164 Havequick II Project Management Administration Recurring Production Fielding Costs	752 1735 859	250	7	660 4500 840	345	13						
2.	B	AN/ARC-220 NOE Radios Project Management Administration A-Kit Procurement Nonrecurring Engr/Integrate on Aircraft Data (Manuals, Pub Changes, Drawings) Software Support Environment Services AN/VRC-100 Ground Radios Task Force XXI Maintenance Model Warranty Services Frequency Mgt/Data Fill Fielding Engineering Changes Test	1764 3041  10351 895 285  155 360   389 80	73	24	11625 3286 4242 12503 940 1034 262 200 4603 162 650 251 989 1300	535	22	19411 1160 16935 1247 25 1100 1694	851	23	13262 1212 13493 7703 26 1125 955	564	24     30  60    52
TOTAL			20666			48047			47450			43395		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY										C. P-1 ITEM NOMENCLATURE	
AIRCRAFT PROCUREMENT / Support Equipment and Facilities										AIRBORNE COMMUNICATIONS (AA0705)	
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A	
Havequick II Radio Kits											
FY96	Magnavox	C/FP	Warner Robins AFB	Apr-96	Apr-97	250	7	Yes			
FY97	Magnavox	C/FP	Warner Robins AFB	Jan-97	Jan-98	345	13	Yes			
AN/ARC-220 NOE Communications System											
FY 96	Rockwell International	C/FP	CECOM	Oct-96	Aug-97	73	24	Yes			
FY 97	Rockwell International	Option	CECOM	Aug-97	Jun-98	535	22	Yes			
FY 98	Rockwell International	Option	CECOM	Jan-98	Nov-98	851	23	Yes			
FY 99	Rockwell International	Option	CECOM	Jan-99	Nov-99	564	24	Yes			
AN/VRC-100 Ground Radio *											
FY 97	Rockwell International	Option	CECOM	Jan-97	Nov-97	9	29	Yes			
FY 98	Rockwell International	Option	CECOM	Jan-98	Nov-98	55	30	Yes			
FY 99	Rockwell International	Option	CECOM	Jan-99	Nov-99	32	30	Yes			
Maintenance Model Radio *											
FY 96	Rockwell International	Option	CECOM	Oct-96	Aug-97	6	60	Yes			
FY 97	Rockwell International	Option	CECOM	Aug-97	Jun-98	90	51	Yes			
FY 98	Rockwell International	Option	CECOM	Jan-98	Nov-98	50	52	Yes			
FY 99	Rockwell International	Option	CECOM	Jan-99	Nov-99	60	52	Yes			
REMARKS: * Option to the AN/ARC-220 EMD contract											

FY 1998 / FY 1999 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										AIRBORNE COMMUNICATIONS (AA0705)										DATE										February 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